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In This Issue

Fees Feasible and Fees Infeasible

Victor Cox Pedersen, A.M., M.D., F.A.C.S.

The Relation of Food to the Intestinal Bacteria

Martin L. Bodkin, M.D., F.A.C.S.

Falls and Pitfalls of a Medico-Legal Expert

Edward Adams, M.D.

Education from Insurance Experience

Mark H. Smith, M.D.

Notes on Internal Medicine for the General Practitioner

Malford W. Thewlis, M.D.

Dark Field Demonstration of Spirocheta Pallida

Herman Goodman, B.S., M.D.

Human Types

J. L. Nascher, M.D.

Complete Index to Reading Pages on Page 17

— DECEMBER, 1928 —

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II. Fees Feasible and Fees Infeasible

Second Paper, with Comments on the Open Forum on Fee-Splitting

VICTOR COX PEDERSEN, A.M., M.D., F.A.C.S.

New York

The Medical Society of the County of New York published a questionnaire on fee-splitting a few months ago which I could not answer because the document itself did not define fee-splitting, moreover when I asked the Committee issuing the questionnaire for a definition I received no answer. As it is necessary for the person answering questions to know the meaning of the term concerned in the questions, I could not and did not in all these circumstances fill out the blanks.

I have myself never split fees. One of my assistants years ago said that if I would do so I would get more work than time and strength could permit. My reply was that if I had to tip my confreres for work as one tips a waiter for service at a meal I preferred to look elsewhere for the work. Is a inclusive and exclusive definition of fee-splitting possible? It is, though difficult. As shown in the quotation from the Code of Ethics of the Law fee-splitting combines an unjust charge upon the patient and a secret division of that charge as compensation not for services rendered to the patient but as a commissions in passing the patient from doctor to doctor.

As an article of commerce is traded, so is the patient traded in these cases with a hidden rake-off every time.

In a recent article* I ventured to show that the budget system of medical expenses for families is fast approaching general acceptance, and that joint accounts for all doctors concerned in the service will be part of this budget system.

I do not now venture more than a review of fee-splitting in the literature to date. When the Medical Society of the County of New York has its policy ready for declaration and application it may be then worth while to digest the problem again and see whether in fact real progress has been made in that which has come to stay but which at present consists in doing in a left-handed way that which is a right-handed relation as shown by the Ethics of the Law hereinafter.

The points in this review are those of many writers. The cross-section of their views is squarely and truly cut; but its statement does not necessarily mean that I agree fully or even partially with the opinions expressed.

PRELIMINARY.

The material researched was limited to the literature of the past few years. Few articles have appeared on the subject of fee-splitting. This is quite natural. Because the major part of medical literature is scientific, relatively little is sociologic and still less is economic. When the field of economics is that of fees and fee-splitting the number of articles is almost negligible. Medical costs have never been adequately considered by the profession and thus it happens that a committee¹ partially composed of nonmedical members has begun an active five-year investigation. Thus as always the community steps in when the profession hesitates or is inactive.

About twenty years ago articles were published when the custom was in its infancy but all economic and

* Medical Times, May, 1926.

¹ The Committee on the Cost of Medical Care, Washington, D. C.

many social relations of the profession were so different then that these articles are not quotable now.

The following are, however, of some interest as introducing the subject:

Hodge—(S. H. Hodge: Fee-splitting, Southern Medical J'l. Dec. 1920, before the E. Tennessee Med. Association, Oct. 1920) stated that the Legal Code of Tennessee makes fee-splitting an offence. The first transgression is punished by fines of from \$25 to \$500 and the second by a fine of \$1000 and up to a year in jail. The statute is quoted in full. The author however speaks of further legislation as possibly to be desired although what he means is not clear. He does not give any cases of prosecution, much less of conviction. In addition the State can sue for three times the amount involved, which is divided between State and local prosecutor. In addition the license is permanently cancelled.

The author states that fee-splitting is widely spread in Tennessee, the practice is now in full bloom, but gives no data. It was probably started by city men who were without a following as a quick way to build up a surgical practice and gain the prestige of being fully occupied with consultation work and operating. He does not speak of any one even anonymously as having prospered by this means. He insists that he is not a sorehead and that he has not suffered from this practice. In his 15 years of activity he has never split a fee. Incidentally he states that opticians pay a commission to the doctors who send patients for glasses.

The author exhausts his invective in assailing the practice and those who follow it. The effect on the patient is bad throughout for he is overcharged to the point of injustice; the diagnosis is slipped, the operation often unnecessary. To the practitioner who accepts a split he states that the 60/40 division will shade down to 50/50 and eventually 25/75. The only rule for consultation or operation is to call in the very best man available. The honest doctor is bound to be the loser in these transactions, hard work and merit are not duly rewarded and if the evil keeps on the profession will become completely demoralized.

I would comment on this article by saying that the diagnosis and operation are not necessarily defective. The point is that fee-splitting is an undue burden upon the patient and an unfair advantage against fellow-practitioners. It is like the secret freight-rebate in transportation long since declared illegal and dishonorable in open court procedure.

*Let the Specialist Do Less, the Family Physician More
—A Remedy For Fee-Splitting.*

Jno O. McReynolds (Texas State J'l of Med. May 1924, vol. xx, page 5) holds that the great increase of specialism in medicine is responsible for fee-splitting. A prominent New Yorker told the author that he had employed no less than thirty specialists representing that many different fields of practice and "of being on his payroll." He also had a family physician who was known as exceptionally clever; yet about all there was for him to do was to summon the particular specialist for the occasion.

Under such conditions the family practitioner becomes a mere agent and as such must look to the specialist for his commissions. This works out in business life but in medicine it can be passed to absurdity. The specialist who pays the largest commissions gets the business and the family doctor might if he would auction off his cases to the highest specialist bidder. But in the meantime the public are deprived of the best technical skill on the one hand and on the other the

element of personal loyalty and conscientiousness.

The best way out is to make every specialist a consultant and nothing more; refuse to turn the case over to him outright. Then the specialist must be satisfied with his consultation fees while the family practitioner continues in attendance and is entitled to his original fees. The specialist should do nothing to weaken the confidence of the public in the general practitioner.

I think the fallacy of this paper is that the truly accredited specialist must essentially carry on the treatment at least at first. The operation and immediate aftertreatment are his. The remote aftercare belongs to the family physician. In no circumstances should the specialist retain the patient.

Because of this paucity of literature as already stated, the material is, therefore, taken very largely from the Open Forum of the Medical Journal and Record during the latter part of 1927 with a few numbers in 1928.

It is of interest to note that the Lancet went to the trouble of analyzing the material in the Forum on this subject comprising the alleged personal experience and mental attitude of more than 200 practitioners, some of whom write at length while others reply very briefly. Many communications are anonymous. While the majority sought to answer the individual questions in the questionnaire submitted by the Journal and Record some of the correspondents answered in general terms which were not in the questionnaire. Few seem to have answered all of the questions but limited themselves to certain of them. Any attempt to treat this material statistically would prove too difficult and it is doubtful in any case if the statistics would be worth while, beyond the summary found in the editorial in the Lancet. This editorial is so fitting and indicates that the fee-splitting custom is not peculiar to the United States that the following epitome of it is interesting.

Dichotomy or Fee-Splitting. (Editorial in Lancet for July 21, 1928).—This long document is based almost wholly on recent American publications. The practice is believed to be extending in London. The patient is always in the dark as to these transactions. Several years ago in one of the provincial centers the specialists and consultants met and passed resolutions condemning the practice and showing the conditions for making it legitimate.

At a meeting of the New York (Co?) Medical Society for last April a report submitted by the Committee on Economics was tabled without a vote. The editor of American Medicine suggested that a patient could sue for a return of the commission. In this country and probably in the U. S. as well offering or accepting a secret commission is punishable by law.

The Open Forum conducted by the Medical Journal and Record brought replies amounting to 55 columns of print reflecting the views of several hundred physicians. The opinions show great variations. Two groups predominate—those who deny the existence of the custom and those who imagine that the custom is widespread and who criticize those who practice it.

In the Eastern states many know nothing of the existence of such a practice but in the Middle West and South, it is by no means exceptional. It is said to be very common in Louisiana and in Alabama it was formerly very common but at present much less so (15 or 20 years ago it was at its worst). In Ohio some claim that the custom is "universal" while Cincinnati is called a place where specialists and consultants pay commissions to out of town practitioners. In Minnesota the custom is justified by some on account of the very

large fees of the surgeons but this does not apparently extend to the specialists.

An ex-president of the Iowa State Medical Society states that in his state and Nebraska 75% of the doctors ask for splits.

In Latin America the practice is said to be universal and that no objections are made. The same custom flourishes in the legal profession without protest and openly.

In regard to the initiation of the custom the young man and the newcomer are responsible and see in this custom the means of getting a start. One man even suggests that this practice be legitimized for the young for they will do so anyhow.

An official of the Prudential Life Insurance Co. states that fee-splitting is "doing the right thing the wrong way." There should be some close economic cooperation among the general practitioners on the one hand and the surgeons, consultants and specialists on the other. At present this is solved only by fee-splitting but it should be possible to devise a better way and incidentally modify the Code of Ethics if necessary.

Concluding, the editor of the *Lancet* seems skeptical as to the value of these communications for he does not believe that they represent a cross section of the opinions of the profession as a whole but only of certain extremists.

What Is Fee-Splitting and Who Give Splits?—If the family physician sends a patient to a specialist the latter may collect a fee for him as part of his own charge, so that the first-named does not send any bill for services. Naturally the surgeon because of the size of his fee and the fact of cash payment is the one best able to remit part of the fee to the family doctor. If an ordinary specialist or consultant figure in fee-splitting it is mostly when the service is continuous over weeks or months so that a portion of the total amount is remitted. In addition a form of fee-splitting is practiced by prescription druggists, opticians, truss makers and others. Fee-splitting is largely only the application of a recognized business principle to the exercise of a liberal profession. As a rule fee-splitting is carried out on a basis of a percentage of fee to the family doctor. A split is sometimes spoken of as a commission in accordance with business usage, which may represent a small or large percentage.

The person who gives the split may be lacking in the necessary skill and experience and may be without a following, being either young or a newcomer and it is this very type who must offer the largest splits. Qualified men like members of the American College of Surgeons are required to take an oath not to split fees but apparently this is violated in individual cases. Men high up in the profession who have arrived and who are secure naturally figure but little in fee-splitting but in some cases have lost their following from this omission and may have been forced to adopt the custom.

The relation of division of fees in the law is shown by the following data. Any one who says our ethics is superior to that of the law is mistaken. Disbarment for unethical conduct has been the policy of the law for time immemorable, whereas the medical profession is just awakening to this policy and recognizing its importance by putting it into force.

Any one who thinks our ethics is superior to the ethics of honest business is also mistaken. As a former business man I can say this without hesitation. In a multitude of relations we are bound by business ethics such as banking, liability, sale and purchase, bequest and inheritance, life and all other insurance. As a former business man I am always amused to hear physicians

claim superiority. In medical politics we often go the ward-heeler one better in the dirt of our deals and the depravity of our methods. In the Middle Ages and even lately assassination has played its role in politics. In medical politics moral and professional assassination are still the common practice. To these things we are not superior, but in ordinary good business methods we cavil and quibble about our claims to superiority and become the laughing stock of the community.

The following is the ethics of the Law in fee-division:

COMMITTEE ON PROFESSIONAL ETHICS
OF THE
NEW YORK COUNTY
LAWYERS ASSOCIATION

QUESTIONS
RESPECTING
PROPER PROFESSIONAL CONDUCT
WITH
THE COMMITTEE'S ANSWERS

(Page 159)

180. QUESTION: 1. An attorney in the course of litigation is required to engage the services of an out-of-town attorney. This out-of-town attorney in due course renders his bill for the services rendered, upon the prior understanding that the forwarding attorney is to receive the customary one-third of the fee. The client could not have procured the services to be rendered by an out-of-town attorney for a less price than the amount charged. Is the forwarding attorney entitled to retain for his own use the share of the fee he receives from his out-of-town corresponding attorney?

2. Under a similar arrangement for the payment of a share of the fee of a forwarding attorney, the latter attorney arranges with his client to conduct the entire litigation, including disbursements, for a fixed amount. In the latter case, would he ethically be entitled to retain the share of the fee which he receives from his out-of-town corresponding attorney and not account for it to the client?

ANSWER: 1. The Committee reaffirms its opinion that division of fees between attorneys "should be based upon a sharing of professional responsibility or of legal services, and that no such division should be made except with a member of the legal profession associated in the employment as a lawyer. Any other division would appear to be a mere payment for securing professional employment, which is to be condemned." (Question 42).

All division of fees between attorneys is by agreement, expressed or implied, but as to whether a one-third-two-thirds division is customary outside of the collection business, the Committee expresses no opinion. It is assumed that as the out-of-town attorney was retained in the "course of litigation", the forwarding attorney shared in the professional responsibility, if not in the actual legal services. Upon the above assumption, in the opinion of the Committee, the receipt of a share of the fee by the forwarding attorney is justifiable as a compensation for services and it may properly be retained by the forwarding attorney for his own use. The client, however, should be advised of the fact that his attorney received part of the fee of the out-of-town attorney.

2. Assuming, as the Committee does, that the client was not overreached or deceived in fixing the agreed amount, it is not of the opinion that the forwarding attorney owes an accounting to his client; but if the

arrangement with the client is of a nature which, for his proper enlightenment or to enable him to make a fair contract with his lawyer, requires a disclosure of the actual disbursements, of course, the client should not be deceived or misled by concealment of the division.

The Committee does not understand the question to imply that the forwarding attorney agrees at all events himself to pay the disbursements.

In Campbell's List of Guaranteed Attorneys the following form is used for attorneys who send claims to lawyers in other States:

To..... Attorney at Law.....
Dear Sir:- Please find enclosed for collection, Claim
of..... vs.
for \$..... Terms.....
one-third to forwarder.

Please acknowledge receipt at once and oblige.

The following are the touchstones of honor in this code of ethics. 1. Professional responsibility accepted and legal services discharged; 2. engagement or professional relation during litigation; 3. due information to the client as to the division of fees; 4. absence of overreaching or deceiving of the client; 5. absence of accounting of the fee-division to the client except in special circumstances.

Parallel procedures in our ethics are easy, emphatic and clear. And we will lose no prestige by adopting these. They represent full and successful experience in the Law.

Different Types of Fee-Splitting.—The transaction may be an open one with the patient fully informed and willing, and the bill may be so worded as to reveal the entire transaction. This is highly exceptional, however, for almost always the transaction is secret throughout. The amount of the fee which goes to the family doctor may be only in proportion to his actual time and the surgeon or other consultant may only charge the patient the table fee. With this arrangement the patient is not overcharged. As a rule, however, the split is a large one and averages 50% which involves an overcharge of the patient because the specialist or operator must be adequately paid himself.

Some men make a radical distinction between ethical and unethical fee-splitting. The former is the use, the latter the abuse. The former may readily be legitimized, the latter is *per se* criminal, and should be made punishable.

The subject of masked fee-splitting is a large one and involves the fact that transferring a patient to another, thereby giving up potential income, binds the recipient to return the favor. The list is a long one and every man knows plenty of examples. Thus a man in poor standing and fearful of rejection if he apply for admission to some society begins to send cases to a prominent surgeon and in time the latter proposes his name for membership and secures his election. In medical schools and closed hospitals the members of staffs religiously exchange cases with one another. Sometimes a new comer has to put up a bonus to get on some staff and the members send him cases with the added reason of making up this sum. The odium attached to fee-splitting may be dodged by selling a patient in advance for a sum based on a percentage. It is claimed that a joint fee or a pooling of fees to be collected by one of the group is not fee-splitting but the very reverse. This is the solution recommended in Liverpool, England, a few years ago, as detailed later in this article.

Who Takes the Initiative?—Is the family doctor or the consultant the one who initiates the fee-splitting?

As far as can be determined one is as much at fault as the other and a vicious circle is readily set in motion. It is probable that if the custom should cease it could readily begin anew with a new generation of men. In such a case who would take the initiative? There is little doubt that this would implicate the consultant rather than the family doctor, the city specialist rather than the rural practitioner. The former without any preliminary negotiation could present the family doctor with a rake-off on a case or he could deliberately approach the latter with a fixed arrangement. Soon we may imagine that the family practitioner takes over the offensive. If he receives no split from a surgeon he transfers his allegiance to another or openly asks for his split on all transactions. The family practitioner is, of course, used to offers of splits on prescriptions, on trusses, elastic stockings, etc. and through this association may be held to be more venal than the surgeon who is used to large transactions and would not engage in such piking ones. The one who writes the prescriptions is also in the habit of receiving his Christmas presents of perfumery and the like. Mostly such gifts are taken without protest while many druggists would not think of making any charge for any article in stock to a profitable prescription writer—would in fact fear to make such transactions a matter of business. Hence in awarding blame it is well to remember that the family doctor is well prepared for accepting splits.

As pointed out in my first paper on Feasible and Feasible Infeasible it is an open question whether such courtesies as wholesale rates for supplies belong in the category of fee-splitting. The physician on his part will treat the druggist at a reduced rate simply as a friend interested in common welfare. Personally I believe these relations do not belong to fee-splitting at all.

Prevalence of Fee-Splitting.—Testimony is for the most part flatly contradictory on this point and it is obvious that negative testimony is without much significance. The doctor who so often reports that the custom does not exist in his locality and that he has never come into contact with it may be honest in his statements. He has, however, a strong motive to deny its existence if he himself has practiced it. Statements also differ much as to the degree of prevalence, for while one may say that very few cases occur, another will speak as though the custom were universal, while some fix the figure at a definite per cent—say 75% of all family doctors. In certain communities the information is given that the practice flourished some years ago but is now much less, although no evidence is forthcoming to show why this decrease has resulted. No doubt some of the high estimates may be biased for it is for the interest of the splitter to claim that the practice is universal.

Certain men of national or local prominence whose attention has long been concentrated on the subject make the highest estimates; thus J. F. Baldwin of Columbus, O., who has written an article on the subject, states that in Ohio the practice is universal and, Macrae, an ex-president of the Iowa State Medical Society, states that 75% practice it in Iowa and Nebraska. In general the Eastern States seem much better in this respect than the Middle West or South. The reports from Boston are good while in Philadelphia conditions seem to have been bad. Few men give any quantitative statements. *Motives for Fee-Splitting.*—Aside from historical perspective it is evident that if the practice did not already exist it might readily come into being. If it is already a prevalent custom, example and precedent supply a suf-

ficient motive. At the present time one can hardly blame the increased cost of living for the practice flourished when this element was absent. But it should furnish a contributory and augmenting cause. The chief factor assigned today is the intense growth of specialism in cities which does not leave the family doctor much else than to pick the particular specialist for the task of the moment. In addition to this hardship the family doctor has to compete with medical centres, foundations and groups, free clinics, lodge medicine, counter-prescribing, the cultists, etc. The beginner in specialism and the new-comer without backing find themselves confronted with entrenched practitioners many of whom are secure financially and the efforts to gain a foothold partake of the unethical or are so stigmatized. Apparently fee-splitting has merely displaced a number of older practices, such as newspaper publicity, sensation mongering, etc. In place of striving to impress the public the pusher of today approaches the family physician and lays his cards on the table. Formerly he antagonized this class of men by his tactics and through fee-splitting he reverses the situation. Envy of the surgeon and specialist vanished when these men began to take him into partnership.

Once a man has arrived through fee-splitting he realizes that if he ceases the practice—or if he fails to adopt it—his income may vanish, his family suffer, his living standards lowered. The motive is self-preservation. I know of one instance in which a surgeon "arrived" through fee-splitting, lost vast sums in bad investments and then resumed fee-splitting. This little incident proves that fee-splitting "pays" better than honorable practice.

The big men who do not split fees charge exorbitant fees yet give nothing back. One man states he lost a dozen fees for this reason; as stated elsewhere. They also steal patients which the fee-splitter does not do. Of the two evils division of fees is surely the lesser. The difficulty with excessive fees is that the finances of the family are usually so drained that nothing remains for the routine services and bills of the family physician.

The Objections to Fee-Splitting.—The chief one seems to be that the patient is overcharged yet does not have any guarantee as to the ability and conscientiousness of the surgeon or specialist. The secrecy of the transaction is held to imply that the practice must be wrong, although this is not necessarily the case. The tendency is to go from bad to worse, to demand or offer larger and larger splits, virtually putting the patient up at auction. The upright and able men in the profession suffer along with the public. This abuse along with others make possible a trend to state medicine, the socialisation of medical practice. The state can interfere in various ways, as in revising down the fee table and will surely do so.

According to the Open Forum, nine out of ten of the profession who are asked about fee-splitting in denying that they come into any sort of contact with the practice take pleasure in applying epithets to the custom of fee-splitting and to the fee-splitter alike. If all of these epithets could be rounded up and listed they should constitute a "Schimpf-Lexicon" such as H. Mencken has compiled from the writings of his antagonists. The mental attitude may be naïve—greatly surprised and shocked that such a practice exists; denunciatory without any qualification or reservation; cynical as based on the foibles of human nature in general and apologetic, in which there is a distinction made between use and abuse. Very few indeed are candid

and clear in admitting the evil and in endeavoring to cure it. Wholesale and indiscriminate denunciation always has the suggestion of a virtuous pose or gesture with the suspicion that this may be a smoke screen—that the denunciator may have done a "little" splitting in his time, and is still doing it "most carefully."

Who Are Back of the Movement Against Fee-Splitting?—It is, of course, understood that fee-splitting is a subject which belongs to medical ethics and as such is discussed and condemned by societies, medical journals and individuals as a routine matter. There is, however, a great difference between expressing disapproval and passing resolutions and the undertaking of an active crusade. Since we do not know intimately where the special animus comes from we can only conjecture it along general lines. When a practitioner cannot prosper because he refuses splits he may do one of two things—either fall into line or remain a bitter foe to those who give the splits. In some cases men have lost the prestige they have gained through failure to adopt the practice. In all such cases it is human nature to react strongly against the practice and especially against the competitors who thrive by it.

Again the class of men styled "highbrow" "F.A.C.S.", etc.—the men who have "arrived" or are otherwise economically secure, are doubtless naturally opposed to what they regard as rank commercialism in practice. As they may suffer in various ways from the inroads of fee-splitters they have every reason to attack both the practice and the successful fee-splitters. They are by many general practitioners made responsible indirectly for fee-splitting, because they charge exorbitant fees, from a sort of medical trust with their cliques and closed hospitals and not only steal patients from the rank and file but pass them along to their friends. There is little doubt that this powerful faction is responsible for much of the activity against fee-splitting, while they themselves are guilty of practices more reprehensible.

Defense of Fee-Splitting.—The number of those who defend, justify or extenuate fee-splitting is not great nor do they form an influential wing of the profession;

but their arguments seem valid or worth a hearing and would certainly appeal to the intelligent layman. The arguments have mostly already been enumerated under the other headings. The chief claim is that in its essentials the practice is rational and justifiable but that it is readily abused. It has been likened to profit-sharing in industry and hence as a step forward, rather than a regression. It can be carried out in such a way that no one can take any offence. The patient and the public in general are taken into the confidence of the profession and with abolition of secrecy any stigma is removed. The charges are made on a basis of a joint fee, of pooling the service, and by adhering to table fees or the equivalent there is no overcharge. The fact that abuses creep in so easily is made responsible for the axiom that fee-splitting consists of "doing the right thing the wrong way". There should be some way of charging which eliminates the dangers of abuses. Apparently this way has not yet been evolved. In general the family physician should never entirely surrender his case. He should keep his service at all times distinct from that of the consultant, who is paid only for each consultation or operation. But hospitalisation complicates matters and if the hospital be a closed one the family doctor always loses touch with the case. This of course is an argument against the closed hospital of very potent force, because the patient is deprived essentially of the services of the doctor to whom

he gave his first confidence and reliance. To these services he is fundamentally entitled and no technicalities should be permitted to intervene.

Remedies Proposed.—These have to do with prevention of the act and either of legitimizing it or more commonly of penalizing the guilty. There are laws in many states which do not evidently have teeth—such laws exist in Virginia, Tennessee, Alabama, Minnesota, Nebraska, Ohio, etc. Either there is no prosecution or there is no possibility of getting evidence. If prosecution failed there would be the ordeal of a libel suit. Our laws against criminal abortion are also largely not enforced because evidence is well nigh impossible. The American College of Surgeons requires that an oath be taken by members yet it is known that some of the Fellows split fees. A cynic told me that F.C.A.S. means "Fees are carefully split".

Publicity is urged to make the public wise. Some one suggests that Woods Hutchinson write the subject up for the lay press. Extralegal measures are expulsion from societies, hospital staffs, etc. The patient might bring suit for return of the commission. No one has suggested that the only way to catch a fee-splitter must be by setting a trap, using a stool pigeon. When a patient pays his bill there should be a written statement that no split has been held out.

Educational measures include courses in medical ethics throughout the four-year course and especially in the senior year. It is claimed that the fee-splitter originated in the cheap proprietary medical school.

Legitimize the practice and distinguish between the use and abuse; rewrite the code of ethics so that the distinction is made. Ethical fee-splitting amounts to a joint fee, profit sharing, a pooling of services in which the patient is charged only table rates and is informed of the entire transaction, and gives assent thereunto.

Abolish overspecialisation and certain unethical practices which foster fee-splitting, as overcharging, stealing patients, etc. If the family physician can live only through fee-splitting let him get out of the profession. The soundest argument is that which allows the family doctor to remain in contact and at least partial control of the patient from first to last and to reduce the importance of the consulting but here the closed hospital steps in as an insurmountable obstacle, as already shown under defence of fee-splitting.

Remarks.—In summing up the foregoing I cannot do better than to note with approval as I have, the editorial in the *Lancet* for July 21, 1928. The latter was written apparently because the practice is believed to be taking root in London. The only article on the subject in the British press in recent years appeared several years ago as a report of the specialists and surgeons in the Liverpool area in which resolutions were passed condemning fee-splitting as commonly carried out. Suggestions were made for rendering profit-sharing ethical, for abolishing all secrecy and for making the charges of the family doctor and consultant a joint bill at recognized fees. The *Lancet* was on the whole not much impressed with the results of the Open Forum, which it does not regard as representative of the solid men of the profession. The editor isolates two large groups, one of which knows nothing of the custom, practically winking at its existence; and the other which claims that the custom is widespread and even all but universal. The sincerity of each of these groups seems to be questioned. They agree however, in wholesale and indiscriminate condemnation. The editor draws the conclusion that the East is much more free from the custom than the Middle West and South.

One may doubt any such geographical distribution or differences. All elements point to the existence of the evil. Its remedy is very simple in my opinion. It is comprised in the plan outlined by the Liverpool meeting: Recognized average rates of fee, open unmistakable accounting for services actually rendered, joint bills on a budget basis and just division of the total amounts paid.

The following cases are demonstrative of what I mean. In a recent issue of the *Medical Week* a leading surgeon noted his experience with the division of fees referred directly to the patient for decision and action. The family doctor had correctly but the surgeon had incorrectly diagnosed an obscure attack of appendicitis. During the postponement of the operation the disease flared up, the family doctor confirmed the diagnosis and the operation was done as an emergency procedure and the patient's life was just saved.

When the accounting was due the patient was told that five thousand dollars are the surgeon's standard fee, but that the family physician had done equal service through his early and accurate diagnosis, hence the fee should be divided by the patient according to his own appreciation of each service. Indignation instead of appreciation and misunderstanding instead of comprehension were the results. Small wonder, because the whole problem was not properly stated and solved. If the bill had been rendered at a total agreed to by the patient and worded positively to include the services of both family physician by name and the other assistants by names the patient (except in special circumstances) could have had no interest in the final dispensation of the money. This is the Ethics of the Law and it is stern common sense. It is the Ethics of honorable business and is simple honesty.

The special circumstances above are these of detailed accounting which few patients keep. Only in very exceptional circumstances would a patient ask or desire to know any detail beyond the facts that the sum total is within his means and covers his obligations to all the medical men on the case. As a former business man I view these things in their simplest terms and after the said total is agreed to my bill is worded about as follows: Foretreatment, operation and aftertreatment while in..... Hospital from..... to..... 192..... including the services of Dr..... (family doctor) and all assistants. Up to date I have no objections and rather commonly definite approval of business-like methods.

Take these examples. About a year ago I did a prostatectomy jointly with another surgeon. The bill was made out in this language, approved and paid. The patient asked no questions because the terms of the bill left no doubts or causes of questions.

Again recently I had to arrange my own fee independently of a family physician and a consulting assistant. The bill stated that their services were not included and was so receipted but when the total budget was agreed to I told the patient what the fee of each should be in just proportion to my own fee. I next sent the patient a letter putting these statements over my signature and each doctor received a signed carbon copy of that letter, containing a request to inform me whether or not the patient kept his agreement with me in their behalf. They were paid in full.

I had a major operation recently and was told by the family physician that he would render his own bill because the foretreatment had been long. As my own fee was rather large for the social status of the patient especially with hospital charges added thereunto, I decided to verify the matter through the patient. As soon

as possible I asked him whether or not he could pay both bills. He promised to do so. Nevertheless I told him that my bill would become a joint account with the family doctor provided he found separate payments impossible. He was a patient of the old school and paid both bills in full.

Compare those incidents with this one. I sent a prominent surgeon in this city an operative case not within the sphere of surgical urology. In discussing the modest fee the patient could afford he blandly asked whether I wanted my fee "added to" his. I refused any such

stunt. Doubtless this operator thought he would not be splitting fees by this little trick. But these factors, forbidden in the Ethics of the Law, would have been present: overcharge, secret division of payment supposedly made to one physician and deception of the patient.

There is something wrong in the Code of Medical Ethics which permits such chicanery. Might it not be well to get off our perch of fancied superiority and copy the Codes of Ethics of the Law and Honest Business? My answer is Yes.

45 West 9th Street.

The Relation of Food to the Intestinal Bacteria

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In introducing the subject of the action of bacteria upon the food we eat, there is no doubt in my mind that gastro-enterology will be built on that basis, either within the near or the distant future. Our treatment of stomach and intestinal diseases will follow largely, then, the dictates of bacterial action upon undigested food.

At present, the etiological factors giving rise to the simple catarrhal diseases of the intestine are considered, generally, as the result of deficient physiological action, directly or indirectly, which is followed by pathology within the intestine. Our clinical knowledge is most perfect but the origin of these common diseases is indefinite and dependent largely upon the laboratory for further elucidation.

Metchnikoff popularized the idea of introducing desirable types of bacteria into the intestinal canal when the beneficent types were inactive, or of reenforcing the weakened residual type with suitable cultures in the form of food from without. The Bulgarian bacillus was selected because of its ability to produce a large amount of lactic and other acids without gas. The lactic acid produced was thought to be inhibitory in its action to the development of putrefactive organisms, which are claimed to be retarded by acids.

This theory, however, is open to question, because acclimatization of the Bulgarian bacillus to the intestinal contents of man has been found impossible. The *Bacillus acidophilus*, a lactic acid producing organism, is theoretically and practically the only parasite that we can logically select from the normal intestinal flora of the adult human being for its protective influence.

The result of physiological digestion is heat and energy. The chemical ingredients of the proteids, fats and carbohydrates are vitally essential to life and form the ordinary diet or fuel upon which we have learned to subsist. A proper selection of these three foods is necessary.

If we accept the theory of the existence of intestinal toxæmia, then we must believe that auto-intoxication is brought about by abnormal digestive material which insidiously causes more people to suffer from premature senility, sickness and death than any other factor. While alcoholism, infections, contagious diseases and accidents are responsible for some of our human ills, consider the host of diseases such as rheumatism and arterial sclerosis and kidney, cardiac, appendicular, colonic, nerve, skin and many other ailments which are directly or indirectly due to a derangement of the

gastro-intestinal tract, beginning as simple physiological disturbances which result in disease.

Therefore, the food must be of a proper variety and quantity, to be easily digested and assimilated, and to obtain the greatest efficiency in the bodily functions. Proteins are concentrated foods, easily digested and oxidized; the carbohydrates and fats are more slowly digested and assimilated. For these reasons, to obtain the greatest efficiency and health, we must adjust, to a greater or less extent, the food (fuel) of the body to the occupation (work).

Our food, after eating, undergoes digestion, fermentation and putrefaction. The undigested, unassimilated proteid residue undergoes alkaline putrefaction; the undigested residue of the carbohydrates and fats undergoes acid fermentation. The proper balance, therefore, must be definitely maintained between the food materials (proteids, fats, and carbohydrates) to prevent the preponderance of over acidity or over alkalinity within the intestinal canal. An improper food adjustment results in auto-intoxication and disease. Unfortunately, most people eat too much of one or the other of these food stuffs. A properly balanced diet will chemically and physiologically balance itself within the intestinal tract.

If we accept the proposition that there is more or less injury to the inside of the intestinal canal, as a result of its over acidity or over alkalinity, then the fault lies, not so much within the intestinal wall, as in the intestinal contents.

The normal fermentation within the stomach, brought about by the bacteria present within that organ, is definitely and commonly known to be the result of the activities of the various acid forming bacteria. Lactic acid is, by most authorities, considered to be a normal acid of the stomach, because of its constant presence. Butyric acid is formed in milk during gastric digestion as the result of the action of the *Bacillus butyricus*, after lactic acid is formed. Alcohol is changed within the stomach by the action of the fungus of acetic acid (*Mycoderma aceti*) into aldehyd and acetic acid. Glucose is acted upon by yeast (*Saccharomyces cerevisiae*) and split into carbonic acid gas and alcohol. These examples of fermentation show that bacterial action enters into the cause of different types of fermentation within the stomach. The action of certain bacteria present in the gastro-intestinal tract probably is part of the physiological working of these organs, and part of what we assume

to be the normal digestion of different nutrient material.

The more or less indefinite pathological etiological and clinical classification of the diarrheas of infants has provided a confusion of therapeutic procedures. Observation, in many instances after death due to severe alimentary diseases, will show that there were seldom marked changes in the intestinal mucosa, and that the pathology of the intestinal wall had less to do with the fatal termination than the severe toxicity. The invasion of the gastro-intestinal tract by certain specific infectious bacteria may cause excessive vomiting. The production of so-called food injury with "proteid intolerance", "carbohydrate intolerance" or "fat intolerance", all of which are supposed to be definite gastro-intestinal phenomena is associated with excessive peristalsis due to an improper intestinal flora. Commonly, excessive acidity with rapid peristalsis will indicate an undue fermentation of the carbohydrates and also show the presence of undigested proteids and fats. A strong laxative may produce an artificial food intolerance, and as a result there will be found present all three of the food classes, in varying stages of digestion.

The extreme heat of summer associated with its effect upon milk or other foods should not, by reason of its depressing effects upon human beings, be taken as a rational explanation for disease, without considering the effect of bacteria on food within the body.

Bacteria are living organisms which require food for their existence, which must be of a kind most suitable for their nutrition. Those which thrive best on proteids produce an alkaline end-product, which favors the development of bacteria requiring that reaction; and the type which grows most favorably on carbohydrates produces an acid end-product which is most suitable for bacteria which thrive in an acid medium.

The prognosis of an inflammatory appendix may be dependent upon the virulence of the type of bacteria predominating within the intestinal tract to a greater or lesser extent, because of the culture medium provided by the previous variety of food and its imperfect digestion. An excessive proteid diet will produce a preponderance of either streptococci, staphylococci or *B. welchii*, and a too abundant diet of carbohydrates will produce an acid type of intestinal contents favoring the development of colon bacilli. The biological action of the *Bacillus butyricus* on fats may increase fermentation or putrefaction but will not initiate either. These bacteria procure their food and excrete their waste products within the intestinal canal where conditions are most favorable for their growth.

Breast-fed infants supply the most perfect flora from which the study of the intestinal contents of human beings can be fundamentally made because of its simplicity. This type is constantly dominated by the *Bacillus bifidus* with a mildly acid flora and therefore presents the standard for investigation. When a modified feeding is substituted, a higher relative proteid and a more variable sugar content is presented. The changed food produces an entirely different growth of bacteria from the previous breast feedings which in many instances causes disturbances of the gastro-intestinal tract of infants. After proteid preponderance there will follow lessening or suppression of the *Bacillus bifidus* or *B. acidophilus* and an increase in proteolysis. An increase of carbohydrates will cause a diminution in proteolysis.

In the adult, the *Bacillus mesentericus* and *B. coli* are found to be the most persistent of the intestinal bacteria. The flora are classified generally as the facultative (normal), fermentative (acid) and proteolytic (alkaline).

Kendall regards the intestinal flora as a physiological unit rather than a collection of bacteria and states that the common colon bacillus forms 75 per cent of the bacterial contents. This latter portion of his statement, that 75 per cent of the bacterial contents is composed of Gram-negative bacteria, has been found correct by me.

Porter and others classify the types of inflammatory diseases of the intestine among children as follows: mild, fulminating, grave, chronic, and putrid diarrhea. These types are presented in the adult identically as Porter and his co-workers have found them.

The differential diagnosis of the types of the intestinal flora varies with the amount of proteids, fats and carbohydrates taken as food and the subsequent proper or improper digestion of these essential foods. Over indulgence in carbohydrates presents symptoms of over-acidity, heart-burn, sour-smelling feces with alternation of constipated or diarrheal movements, gas distention, red, swollen or fissured tongue, headache, sour stomach and malaise. Examination of the stool will reveal acid reaction and over preponderance of Gram-negative bacteria of colon type. There will be a history of a lack of proteid diet. They partake either of vegetables or non-meats such as cereals, vegetables and fruits, and of fats in the form of meat soups and rich milk. The fats exaggerate the fermentation.

The proteolytic type very often presents sudden symptoms of toxicity sometimes without diarrhea. There may be coated tongue, foul breath, chill, rise in temperature and obstipation. When this type presents itself in a less severe or chronic form, these symptoms of auto-intoxication persist over a long period, generally associated with constipation and its sequelae. The flora shows a decided preponderance of Gram-positive bacilli, alkaline in reaction, including *Bacillus aerogenes capsulatus* and *Bacillus lactis aerogenes*; the staphylococcus and streptococcus are also to be noted. Toxic albumoses may be found to produce auto-intoxication, including vasomotor disturbances caused by the products of imperfect protein metabolism.

NORMAL FLORA:

- I. Saccharolytic:
 - Normal carbohydrate preponderance of breast-fed infants.
 - End-product mildly acid.
 - Gram stain shows *B. bifidus* (colon group).
- II. Saccharolytic:
 - Normal carbohydrate preponderance of artificially fed (mixed diet) infants.
 - End-product moderately acid, sometimes slightly alkaline.
 - Gram-negative stain shows *B. coli* preponderance.

ABNORMAL FLORA:

- I. Saccharolytic:
 - Abnormal carbohydrate diet (mixed or non-proteid).
 - End product excessively acid.
 - Gram-negative stain shows large number of *B. coli* group.
- II. Proteolytic:
 - Abnormal proteid diet.
 - Excessively alkaline.
 - Gram-positive stain.

(Concluded on page 325)

Falls and Pitfalls of a Medico-Legal Expert*

(With Lantern Slide Demonstration)

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New York

Mr. President, Members of the Medical Jurisprudence Society, Ladies and Gentlemen:

I trust that the subject which I will discuss this evening will prove to be like the modern woman's dress—long enough to cover the subject, yet short enough to be interesting.

In the March number, 1928, of the *New York State Journal of Medicine*, there is an article by Lloyd Paul Stryker, Counsel of the Medical Society of the State of New York, on the subject entitled, *A Consideration of the Need of Legislation Bearing Upon the Question of Expert Testimony*. I have read this article very carefully and I must say that I do not agree with the writer on many points.

First: The claim that the expert is biased in favor of the party calling him, and that he thereby becomes in reality an advocate rather than a witness made so by reason of his commitment to a compensation by one side of the controversy.

In answer to the above assertion, many times I have been asked by the opposing counsel, "Doctor, you are being paid to come into court to testify in this matter?" Naturally, the Doctor expects to be compensated; not only for his time, but also for his knowledge. There is no reason under the sun, why the Medical Expert should not be paid for his services. I, furthermore, do not see why such an Expert cannot render an honest opinion in the matter without being biased in favor of the party calling him. Very frequently the opposing Counsel seeks to embarrass the Doctor by asking him how many examinations he makes a week, or a month, for the side that employs him as an Expert. This is all done with the obvious purpose of trying to discredit the testimony of the witness.

Second: The criticism is often voiced that something should be done about expert testimony, because it results in conflict—differences of opinion—expressed by one side and the other leading to confusion.

Very often there is a difference of opinion amongst the Doctors regarding the disability of the injured. It was only the other day in the Supreme Court of the City of New York, when I was asked to testify in regard to a comminuted fracture of the head of the right humerus with marked displacement and overriding of the fragments. I made a physical examination of the plaintiff a day before the trial, but at that time I did not see the X-ray plates of the case; and it was only when on the witness stand that I was shown the films. The X-rays confirmed my clinical diagnosis, and it as my further opinion that there was only 25 per cent of use as regards motion and function of the said right shoulder joint. In other words, there was seventy-five per cent loss of motion. The Doctor for the defendant said there as only twenty-five per cent loss of motion, and that there as seventy-five per cent of motion present. In this particular case, I feel certain that the physician making the examination for the defendant had not sufficient experience to enable him to reach the conclusion which he had. If the doctor, for the defendant, in my opinion, had seen many cases of this type he would have agreed with me, and furthermore there would be no difference or conflict of opinion regarding the disability

that remained in this case. It is either due to lack of knowledge or else the doctor tries to minimize the disability which is present.

Third: The payment of contingent fees to experts has been criticized.

The payment of contingent fees to medical-experts should in my opinion be most severely condemned. I do not believe a doctor should take any case and testify on the agreement of a contingent fee. It is obvious that if he did his testimony would lean greatly toward the side that employs him; and he would not and could not render an honest and unbiased opinion.

Fourth: A criticism has also been offered because wealthy litigants are enabled to overawe the jury with a mass of expert testimony to the disadvantage of poor litigants.

This criticism does not hold true as regards a Medico-legal Expert. One doctor of unquestioned ability, knowledge, and honest, is all that is necessary in any medical case, except that group referring to insanity and mental disorders. It is my firm opinion that medical testimony along these two lines have done more to discredit an expert witness than any other class of cases. The confidence of the people has been greatly shaken when four or five experts having been on the witness stand; two or three will say the person is insane, and the other two will not agree with the findings of their colleagues.

Sixth: The requirement of the hypothetical question has often been condemned.

This question is extremely important to the Medico-legal Expert. Very often the Medical Expert has not seen the case at all and he therefore must be guided by all the facts propounded in the hypothetical question. As per illustration: Now, Doctor, assume that Mr. X was a passenger in an automobile, and that the car he was riding in collided with another car; and as a result of said accident the car overturned, and he was thrown out of the car and fell and injured the right side of the body; and furthermore, assume, Doctor, that the right hip was fractured in several places. "Now, Doctor, in your opinion would such an accident embodying all the facts, as I have stated, be a competent and a producing cause for the injuries which this claimant has sustained?" Answer, "Yes". Usually, then follows a question which to my mind at times is an extremely difficult one to answer. Invariably the next question asked is: "Now, Doctor, the injuries which this man has sustained are in your opinion of a permanent nature?" The answer to this question has to be given with a great deal of care and thought. If this claimant, assuming for argument's sake, has sustained a fracture of the femur, the injury it itself would be a permanent condition; but as regards motion and function, that is an entirely different matter. In this particular case, while the fracture would be a serious condition, there could at the same time be an excellent functional result, with very little loss of motion at either the knee or hip joints. Very often the Medical Expert is asked a question regarding permanency, somewhat as follows: "Now, Doctor, can you state with reasonable certainty, in your opinion, are the injuries permanent?" I always try carefully to answer the question as stated above, in order that there may be no mistake as to the interpretation of my meaning and opinion.

* Read before the Society of Medical Jurisprudence, March 12, 1928.

Seventh: A further ground of criticism of expert testimony frequently stated is based upon the want of satisfactory expertness, with the result that charlatans are permitted to testify.

It is entirely up to the opposing Counsel to cross-examine the witness, in order to determine his fitness and qualifications as an Expert. A few pointed and direct questions will establish the fact whether the witness in question is an expert or not. Very often the opposing Counsel will go to great extremes in order to break down the witness and show that he is not competent or qualified to testify as an Expert. It was only last week, when I was in court to testify in a case where the woman in question sustained a traumatic synovitis of the left knee and traumatic neurosis, as a result of falling downstairs. The family physician who treated the woman qualified as an Expert, and the attorney for the defendant, who was a very clever and brilliant lawyer, one who has had considerable experience in medical-legal work, literally tore the Doctor to pieces by his cross-examination. The answer which this so-called Medical Expert gave were really pitiful. It appeared to me that the Doctor to use a slang expression, "had bitten off more than he could chew". When this so-called Expert left the witness stand he was very much discredited; and as I afterwards learned the Jury really felt sorry for him. This case proved to be a boomerang to the Counsel for the defendant, as he very carefully laid a pitfall for the Doctor into which he readily fell; but the Counsel did not know that there was a fall in store for him; because the Jury rendered a verdict for the plaintiff, and in an amount much larger than they would have ordinarily given had the opposing Counsel not treated the Doctor too roughly. One of the Jurors told the Counsel for the plaintiff that they thought that the Attorney for the defendant had gone entirely too far, since he waned to show how little the Doctor knew of medicine, and how much medicine the lawyer knew.

I now wish to take up more in detail the injuries which one sees in the course of every day Medical-legal work. Head injuries will be briefly discussed except those relating to diseases of the brain and mental diseases including insanity. Concussion of the brain, as well as, injuries to the scalp, and fractures of the base and the vault, have to be considered. Up to the present, head injuries have excited only moderate interest as regards the physician. With the lumbar puncture technique perfected and the use of x-rays, head injuries are now more easily and readily diagnosed. At the very outset a word of warning should be given when dealing with fractures of the base or vault, and this is especially so in children and young adults before the age of eighteen. It is my opinion that a floero-scopical examination of the head should never be made; but stero-scopical pictures of the skull should always be taken in all cases, in order to avoid the great danger of mistaking normal sinuses, and normal suture-lines, for a linear or sometimes even a depressed fracture. I can recall very distinctly a case which came into court a few weeks ago, when on behalf of the defendant, I examined a boy seven years of age who had been struck and injured by an automobile. The x-ray pictures showed a linear fracture at the base of the skull in the occipital region. The attorney for the plaintiff claimed that as the sight center was situated in the occipital lobe of the brain, the fracture which this boy had sustained had caused not only an oedema of the brain, but also an impairment, and a permanent defect in vision. The Neuro-surgeon, who testified in this case, said that in his opinion the boy had suffered permanent injuries as result of this linear fracture. He furthermore stated that he examined the background

of the eyes and there was marked congestion and inflammation of said backgrounds. On cross-examination I was asked whether I had made such an examination, and stated, no: as it was my opinion that a thorough examination of the eyes including the backgrounds should be made by an Eye Specialist, who is competent and qualified to interpret the findings. I do not believe a General Surgeon or a Neuro-surgeon is competent or qualified to interpret these findings. The boy, himself, made a poor witness on the stand and the result was that the case was settled during the trial for a very small amount. The pitfall in this case was the impairment of vision: and it was my opinion that the boy's eyesight would not be permanently impaired. The x-ray in this particular case showed a very slight fissured or linear fracture, and such a fracture of the occipital bone could not by any stretch of imagination cause any injury to the coverings of the brain or to the brain itself. In children, it is extremely difficult to state whether such a linear fracture involves the outer, or inner table of the skull or both, and the clinical signs are of a great aid in arriving at a diagnosis.

Injuries to the scalp with damage to the skull or brain are treated too lightly. Usually all that is done is that the part is shaved, and the wound sterilized with either a solution of iodine or mercuriochrome. Very frequently a fracture of the skull exists under injuries to the soft parts, and it is only when the injured has sustained a severe concussion of the brain with loss of consciousness that an x-ray may be taken. It is my recommendation and advice that in all cases of head injury, even where there is a mild concussion, stero-scopical plates should be taken, in order to determine what the x-ray shows. Diagnosis of a fracture will depend upon the history of the injury, careful neurological examination, and as mentioned before an x-ray examination. Also, the fact must be remembered that a linear fracture may have few clinical signs of such injury, and the only symptoms that are complained of are headaches, nausea, and vomiting. A great many cases of linear fracture of the vault, or base, are frequently overlooked because no stero-scopical plates have been taken. (In this paper I shall not take up the treatment of any of these injuries.) Depressed fractures of the skull are as a rule very easily diagnosed, and the main danger resulting from these fractures are epilepsy and convulsions. Fractures of the base of the skull are serious injuries, not on account of the damage to the skull, but to the brain which is of major importance. A blow of sufficient force to cause a fracture of the base will in all probability result in serious damage to the brain. Usually most base fractures are depressed due to involvement of the cribriform plate of the ethmoid or the petrous-portion of the temporal bone, and the danger of meningitis is very great. A great many times a negative x-ray picture will be found, but this should not rule out a fracture of the base of the skull. Concussion of the brain is as a rule not a serious condition, usually the only symptoms being headaches, nausea, and vomiting. If a patient should be unconscious, the pulse, respiration, temperature, and blood pressure are practically normal. In reality, in a mild concussion case there are probably minute lacerations of the brain. In some instances, what appears to be a simple concussion may turn out to be a more serious condition. As mentioned before stero-scopical plates of the skull, as well as, a lumbar puncture will prove of great value in arriving at a correct diagnosis. Most injuries of the brain result in an increase of intercranial tension, due either to hemorrhage or oedema. Hemorrhage of a sufficient severity to cause marked increase in inter-cranial pres-

sure is usually due to damage of the middle meningeal artery. The usual history is that the patient sustaining a head injury was perhaps unconscious from which he recovered somewhat completely, only to lapse into a drowsy or comatose state a few hours later. In this type of injury the blood pressure rises, and the pulse rate falls, as the inter-cranial pressure increases. Later on, the patient may develop a paralysis of a part of the face, or arm, or leg, or Jacksonian attacks may occur. These cases showing the above symptoms usually require operative treatment and the bleeding vessel ligated. We must always remember that the injured vessel is on the opposite side of the paralysis, and not on the same side of the injury. Recently I had occasion to examine a patient who had sustained a head injury about ten weeks previous to the time of the examination. The woman was taken to a hospital where she remained for six weeks, and then she was taken to her home, where said examination took place. I will quote verbatim the diagnosis of injuries claimed on the part of the attorney for the plaintiff (I was making the examination for the defendant):

1. Compressed fracture of the skull. (Whatever this means, I do not know.)
2. Concussion of the brain.
3. Contusions of left eye and cheek.
4. Headaches, and vertigo.
5. Vision—when attempting to read, pain over the right eye.
6. Smell—not so acute cannot distinguish strong perfumes.
7. Taste—obliterated.

Diagnosis: Fainting spells, vomiting, vertigo, unsteadiness in gait, sluggish pupils, nervous shock, and of course injuries to both sacro-iliac joints, with numerous contusions of the body.

Briefly, my physical examination did not disclose any scars on the head, showing that this woman had no laceration of the scalp but in all probability she sustained a concussion of the brain. According to my findings, the pupils reacted to light and accommodation; the injured was able to distinguish colors, and objects, at a normal distance, and apparently there was no injury to the eye, except that the claimant stated that she had pain over the eye when attempting to read. There was no Romberg sign present, the reflexes were not exaggerated and the heart's action regular. The blood pressure was also normal and I was unable to make out any disturbance of taste and smell; in fact all the special senses appeared to be normal. It is quite evident from the list of injuries submitted that the attorney in this case ill seek to recover substantial damages. I may add in passing that thorough examination of the sacro-iliac joints did not reveal any abnormal conditions. The symptoms that this woman complains of are mostly subjective in character, and although I have not seen the x-ray plates, I feel sure from the clinical symptoms which are now present that the injured at the time of the accident did not sustain a fracture of the base or vault of the skull. However, I should reserve final decision until I have had an opportunity to see the x-ray plates in this case. The symptoms most frequently complained of by litigants having a head injury, are shock to the nervous system as further evidenced by headaches, dizzy spells, and loss of sleep. This trio of symptoms is entirely subjective in character, and one could spend an entire evening setting forth and discussing the various cases for the above named symptoms. Doctors, who see a great many of these medico-legal cases, which require an examination, know of one attorney in particular, who will give as a routine in an injury to the skull the following

complaints: headaches, dizziness, nausea, vomiting, vertigo, loss of sleep, impairment of vision, defective hearing, and shock to the nervous system. Furthermore, he states these conditions are of a permanent nature. One could readily understand that when there is a severe fracture of the skull that some of these symptoms may persist, but for an ordinary mild concussion of the brain, usually these symptoms clear up in a very few days or a few weeks at the utmost. The other day in court, I was asked whether in my opinion, all the above conditions could result from a mild concussion of the brain. Answer, "No". Then I was further asked if a mild concussion could last for several months. Answer, "No".

Fractures of the spine are sometimes very hard to diagnose, in view of the fact, that the difficulty arises from one or more causes: (a) The lack of appreciation of the clinical symptom complex which indicates the existence of injury to the spine: (b) The symptoms, both subjective, and objective, may be so mild that they can be readily explained by some simple injury such as a contusion or sprain of the back. In fact, I have seen a great many cases where the patients did not pay any attention to them, until they have lasted for many weeks or even months. Then again one symptom may be so prominent as to distract the attention from the spine, and suggest a condition other than injury to a vertebrae. Sometimes a few pointed questions will help materially in making a diagnosis and prevent the Doctor from a pitfall: (a) What was the nature of the accident?; (b) What does palpation of the spine reveal as to the nature of the lesion?; (c) What is the level of the lesion?; (d) Is the lesion partial or complete? In fractures of the atlas and axis, the patient usually dies immediately. In other regions the symptoms are shock, pain, and tenderness at the level of the injury, rigidity above and below the region, and hyphosis at the seat of the fracture especially if this fracture is of the crushing type. If uni-lateral there will be lateral deformity; if the cord is injured there will be partial or complete paralysis up to the level of the lesion. The reflexes are usually absent, except in a partial tear where the reflexes will be increased later on. There is sphincteric disturbances, urine retention, and later on incontinence. Compression fracture or crush fracture of the vertebral bodies, is a term used for an injury to one or more of the vertebral bodies causing an impaction of the spongy body, and a crushing together of the upper and lower surfaces. Pain and deformity are present at the level of the lesion. Motion of the spine is limited and painful, the pain being increased on pressing down on the head and shoulder in the long axis of the spinal column. There is muscular spasm and tenderness in the region of the fracture. Pressure on the spinous process of the injured vertebrae is particularly painful. The great pitfall is that these symptoms may be so mild that the injury escapes recognition. Here again the x-ray is of great value. It is a good rule to take an antero-posterior and lateral view of every injury to the spine, in order to determine the exact nature of the injury. Stereoscopic plates are to be preferred. As a preliminary to the taking of a clear x-ray, it is necessary to empty the bowels by giving a physic and enema. In taking x-ray plates of the lumbar spine it is advisable that the intestine be displaced during the x-ray examination by means of a rubber ball. The patient is turned on one side and a rubber ball is placed over the lateral abdominal region (the flank) between the ribs and iliac crest and pressed down. The intestine will be displaced forward. A type of fracture which is frequently seen in the spine is that of a fracture of the transverse process usually

found in the lumbar region. I have been able to make a clinical diagnosis of these conditions where the symptoms most complained of are pain in the flank, sometimes referred to the knee on the affected side. All movements are painful and limited, especially lateral bending. The symptom, which to my mind, has proven of greatest value is marked tenderness on pressure over the transverse process. No matter how trivial it may seem, I wish again to reiterate that a great many cases have been diagnosed as simple contusions, have later on proven to be a fracture of one or more of the transverse fractures. The following case will point out a pitfall to be avoided in the examination of the spine for injuries:

On October 6th, 1927, I re-examined T. B., age forty, who lives on —— Tenth Avenue? in the presence of the claimant's wife and Mr. B., representative for the attorney, Mr. X. Y., of —— Broadway, where said examination was held. The previous examination took place on July 2nd, 1925, and this report is supplemental to same. (First examination proved negative as to spinal injuries.)

Physical examination shows a man five feet eight inches tall, weighing one hundred sixty-five pounds. I first had him walk fully dressed, and he dragged the left foot slightly, not attempting to bend the leg at the knee and using a cane for support. I then took him into the attorney's office and had him strip. When he sat on a chair he was able to flex the left knee without any trouble. Examination of the head showed that the eyes responded to light and accommodation, there was no puffiness of the face, no loss of sensation on either side of the face, and no areas of hyperesthesia or anaesthesia. He claimed that he had a slight discharge from both ears, but I could not find any evidence of this, nor was there any impairment of hearing. He also claimed that he could not raise his arms further than at a right angle to the shoulders, but when his attention was diverted he was able to raise them much more than at right angles. When I attempted to manipulate the arms, however, he brought his muscles into play and I was unable to overcome the muscular spasm and rigidity. There was no atrophy of the muscles of either arm or leg.

There was a scar on the left side, showing the result of a kidney operation on June 10th, 1925, at the —— Hospital, by Dr. B., of this city. During the course of the conversation I also learned that he was treated for neurasthenia at —— Hospital, from July 28th until August 12th, 1925. There was no Romberg sign present, the reflexes were not exaggerated; the Babinsky sign was also not present. I had him lie down flat on the floor and in testing out the areas of anesthesia and hyperesthesia (loss of sensation or increase of sensation to the prick of a pin), he stated that on the left leg, inner side, upper third of the left thigh, he did not feel any pain. This was the only area where the man stated there was a definite loss of sensation. It appeared to me that the ilio-inguinal nerve was caught in the kidney scar.

Motion at both ankle joints was free and unimpaired, motion at both knee joints was unrestricted. The right hip joint showed normal motion, but when I attempted to flex the left knee upon the abdomen, he brought his muscles into play with the result that I was not able to overcome the muscular rigidity in the region of the left hip joint. I had him turn on his face, and in examining the spine very carefully, I was unable to find any points of tenderness or any signs of a fracture of the cervical dorsal or lumbar vertebrae. The attorney stated that Dr. B. took some x-ray pictures a year and a half ago

of the spine, but these were evidently negative as far as any bony injury was concerned. Taking the man unaware, I asked him to get up on his hands and knees and he was able to do so without any difficulty. This particular feat I immediately called to the attention of the attorney's representative. I had him get down on his face and get up from the floor while lying with face down. He was able to do this without any assistance and was able to get up from the floor as well as any normal person:

His blood pressure was 124 systolic and 94 diastolic. He gave me the impression of being well nourished, well developed muscularly, and one would expect that in view of the fact that he has not done any work for two years that there would be weak and flabby musculature. This condition, however, was not present.

As the wife was undressing him he took off his shirt and I saw that he had a metal brace, twenty-four inches long, over his undershirt, consisting of two long pieces of steel which extended over both shoulders, running down to the end of the spine. This brace was held in place by four elastic straps running around the chest. After this brace and the undershirt were removed, he had another abdominal support made of elastic webbing, about six inches in length and covering the lower end of the abdomen and lower part of the back. Why he wore these two braces, I cannot understand, unless he was trying to impress me or some other doctor with the seriousness of his condition. He did not fool me, however as the clinical signs did not warrant his wearing either one of these supports. After a complete and thorough examination, I was convinced that he was a malingerer and that he was attempting to secure large damages for symptoms which did not exist according to the clinical signs.

In the first week of February, 1928, this case came to trial in the Supreme Court of the City of New York, and lasted for nearly one week. The claimant dragged his left foot as previously mentioned and held it stiff, but when he sat down he bent the knee unconsciously showing that motion at this joint was free and unimpaired. While on the witness stand he showed how much he could raise his arms and this was not more than at right angles as previously described. His own doctor admitted that this man had no organic lesion and declared that the man's trouble was 66 2/3 per cent functional. I agreed with the doctor for the plaintiff in this regard, only it was my opinion that his trouble was 99 2/3 per cent functional and that he was suffering more from litigation neurosis than from any real injury to the spine. The jury brought in a verdict for the defendant.

About ten days after the trial, I happened to meet T. B. on the street and he was able to walk without the slightest trace of a limp or without the aid of a cane. This case clearly demonstrates a pitfall which an Expert has to evade.

One of the greatest pitfalls that the Medico-legal Expert has to deal with is injuries involving one or both of the sacro-iliac joints. The chief complaint is that of a backache with limitation of motion in bending forward, backward, and from side to side. There are so many causes for backache that an evening could be well spent in discussing the etiology of this condition. Various diagnosis are made at this point including sprain, strain, arthritis, subluxation and dislocation. The two most commonly mentioned are a sprain of the sacro-iliac joint, or arthritis of the sacro-iliac joint. Unfortunately the x-ray is not of great aid in making a differential diagnosis, unless, there is an arthritis present when a marked cloudiness can be detected between the sharply

defined line which is normally present in the articulation of the sacrum and the ilium. The following symptom complex when present is almost patho-gnomic of disturbances of the sacro-iliac joint: (1) Pain in the region of the affected joint on turning over while in the recumbent posture. (2) Discomfort while lying on the back. (3) Pain produced by sitting on a hard chair and relieved by sitting on the opposite buttock. (4) Pain in the affected sacro-iliac joint on forward bending. (5) Pain on deep pressure over the affected sacro-iliac joint. (6) Goldwait's symptom (pain referred to sacro-iliac region or to the leg of the affected side when the thigh is flexed with the leg extended).

Differential Diagnosis: There are several conditions simulating sacro-iliac disturbance which may cause error in diagnosis: lumbago, sciatic, hip disease, Pott's disease and disease of the ilium.

DISEASE	POINTS OF RESEMBLANCE		POINTS OF DIFFERENCE
1. Lumbago	Pain in the lower back. Limitation of motion.		Pain is bi-lateral and sharply stabbing in character. Location in lumbar muscles which are tender to pressure. Goldthwait's symptom absent.
2. Sciatica	Pain radiating down leg. Local sensitiveness to jars and to manipulation.		Pain confined to distribution of sciatic nerve. Very uncommon in children. Goldthwait's symptom absent, but pain may be elicited over sciatic nerve.
3. Hip disease	Limp. Faulty attitude. Pain on movement of thigh and on rising.		Muscular rigidity in the hip-joint. X-ray picture different. Limitation of motion in all directions.
4. Lumbar Pott's disease	Pain in back and down leg. Postural peculiarities. Limp.		X-ray picture different. No pain on bi-manual compression of iliac spines.
5. Iliac disease	Local tenderness.		X-ray picture excludes sacro-iliac disturbance. Goldthwait's symptoms absent.

To my mind one of the greatest clinical signs is the flexing of the knee upon the abdomen with external rotation or abduction at the hip joint on the same side of the affected sacro-iliac joint. Where an arthritis is present especially of the chronic type, there is marked rigidity and limitation of motion in this manipulation. Where there is a so-called sprain of the sacro-iliac joint, the above symptoms are not so pronounced. I think it is advisable, at this time, to define the above named terms, as a great deal of confusion exists regarding the exact nomenclature. An arthritis is an inflammation of the joint evidenced by all the cardinal symptoms; redness, heat, swelling, pain, and impaired function. A strain is defined as a relaxation of the muscles with no tearing of the ligaments. A subluxation may be defined as a partial dislocation; and a dislocation is a displacement of the ends of a bone that go to form a joint. Most of the terms applied to condition of the sacro-iliac joint are either an arthritis or a sacro-iliac strain. The history and the thorough physical examination will aid one in making a differential diagnosis. In this class of cases the injured complains of pain on walking, inability to go up and down stairs without a great deal of pain, and also, the fact that the pain is reflected down the thigh and legs like a sciatica, the pain is worse at night. Focal infections, especially bad teeth, and tonsils play an important role in the etiology of these sacro-iliac conditions, especially when the latter are claimed to be caused by a trauma. Here again, a permanent disability is very often claimed, and one has to be extremely cautious in the an-

swer which is given to this question. Sometimes these sacro-iliac conditions persist for a long time in spite of every known method of treatment which has been used. All these injured claiming sacro-iliac disturbances should be examined, not only in the prone position, but also in a standing posture.

Contusions in the region of the sacro-iliac joint, as well as haematomas usually clear up in a very short time and no permanent disability can result from either of these conditions. Osteo-arthritis, osteo-myelitis, and tuberculosis of the sacro-iliac joint are also conditions that have to be considered. As mentioned before time will not permit me to go into all the differential points of these conditions.

Fractures of the ribs are very easily diagnosed by the clinical signs, and the x-ray is of great aid. Usually these fractures even when involving more than one rib, clear up in a period anywhere averaging from four to eight weeks, unless accompanied by pulmonary complications. As a rule there is no permanent disability except that the healed fracture is a permanent condition, but as far as functional disability is concerned there is none. The symptoms most frequently complained of, weeks or even months, after such an injury is pain in the region of the old fracture when the weather changes. This sign or symptom is purely subjective in character.

Fractures of the scapula are very uncommon and the x-ray sometimes is the only way in which a diagnosis can be made, as the clinical signs are very indefinite. The injuries to the shoulder joint have to be considered under the following possibilities: sprain, fracture of the clavicle, dislocation of the clavicle, sub-deltoid bursitis, fracture of the scapula, fracture of the surgical neck of the humerus, the anatomical neck, fracture of the tuberosities of the humerus, separation of the upper epiphysis of the humerus, dislocations of the head of the humerus, usually sub-coracoid, or sub-glenoid, or a combination of both. The history of the case has to be taken into consideration; compare the lengths of both upper extremities, having the injured to remove all garments from the chest, in order to determine whether there is any displacement, swellings, or any change in the contour in the region of the shoulder joint. By palpation locate the coracoid, the acromial process, and the head of the humerus. By this simple procedure a diagnosis of dislocation can be readily made out. If a history of an injury has been given and the examination reveals an atrophy of the muscles in the region of the shoulder joint especially the deltoid, the pectoralis major and minor muscles, as well as infr-and supra-spinatus muscles. These factors would lead one to believe that there has been some serious injury at the shoulder joint. Stereoscopic x-ray plates of the injured shoulder are of great value in arriving at a differential diagnosis, and also as regards prognosis in relation to the amount of disability, if any, that will remain as regard the use and function at said shoulder joint. Fractures of the acromial end of the clavicle, as well as, fractures involving the anatomical or surgical neck of the humerus are usually disabling to a more or less degree. Even if the clinical signs, and the x-ray plates show that there has been a fracture to the parts mentioned above, and that there is a good alignment of the fragments, as well as, a good firm callus being present; the pitfall to be avoided is the amount of rigidity, and loss of function, which the claimant shows at the time of the physical examination. Usually these serious injuries involving the shoulder joint are not seen until six months or later by the examining physician for the defendant, and he has to take the entire picture in consideration before rendering an opinion regarding the permanency and disability that will remain at the shoulder joint as result of the injuries sustained.

Another pitfall to be avoided especially in children is the fact that normal epiphyseal lines are very often mistaken for a linear or fissured fractures. The symptoms outside of pain, especially when dealing with this type of fracture are practically negative and it is only when stero-scopic plates are taken that a definite diagnosis can be arrived at. I always advise that in all types of fractures involving the long bone that the normal bone should always be taken so as to compare that with the injured one. It is, only by this method of comparison that a conclusion can be arrived at. Fractures of the shaft of the humerus, even when comminuted are not of a disabling type, unless there is marked displacement and overriding of the fragments. Traumatic arthritis is a clinical entity which one has to consider especially with regard to its disabling affects. The history has to be carefully obtained, and note whether there is a focal infection present, as this may be the primary factor and a slight trauma be the secondary cause bringing about the above named disease. Traumatic neuritis is another condition that has to be considered for its disabling effect upon the use of the arm and forearm. A few days ago as I was about to examine a man, there was a claim made for traumatic neuritis with the result that the injured had little use of his right arm and hand, and up to that time he had been totally disabled for a period of eight weeks.

The history briefly was that he was struck on the right shoulder by a piece of plaster from a falling ceiling, the x-ray was negative, and also that there was practically no swelling at the right shoulder joint. The symptom which he mostly complained of was not a pain, but a palsy or a shaking of the right hand and fingers, which the injured claimed was not present before the accident, (this happened two months ago), and which he now complains is a permanent disability so much so, that he has been unable to return to work. I asked the man to undress and in doing so observed that when he started to remove his tie, and unbutton his collar the palsy or shaking, quickly disappeared. It was only after the injured realized that he had forgotten to shake his hand and fingers that this manoeuvre was again resorted to. As a further test, I distracted his attention and asked him to pick up quickly from the floor a fifty cent piece. Again, the palsy disappeared just as if by magic. The attorney asked me to give an honest and frank opinion, and I had no hesitancy in saying, that in my opinion he was a malingerer, or to use a stronger term a fakir. The attorney seemed to be of the same opinion and I have no doubt that the traumatic neuritis will be eliminated as a claim for permanent disability of the right upper extremity.

Fractures around the elbow joint are very easy as a rule to diagnose and fractures mistaken for epiphseal lines are very often apt to prove a pitfall. Several months ago I was asked to see a girl of twelve years of age, who fell on the ice and sustained an injury in the region of the right elbow joint as evidenced by swelling, discoloration, pain, and limitation of motion especially upon extension. The x-ray report in this case was negative as regards a fracture, but the clinical signs especially a point of maximum tenderness along the internal condyle of the humerus led me to believe that I was dealing with a fracture, and accordingly treated it as such. In six weeks there was a definite callus formation, and when this arm was re-x-rayed with stero-scopic plates the clinical diagnosis was confirmed. I feel certain that if this case had not been treated in this manner, I would have been subjected to a lawsuit for mal-practice, and in all probability there would have been some

ankylosis with limitation of motion at the right elbow joint. The question of ankylosis at any joint is a great factor as the treatment will materially differ, whether said ankylosis is of a fibrous or a bony nature. Fractures of the shaft of one or both bones of the forearm can be readily diagnosed, not only by the clinical signs, but also by the use of the x-ray. Fractures around the wrist joint are more or less disabling especially a typical Colle's fracture, (a fracture of the styloid process of the radius), when found in old people, and when the fracture is of an impacted variety. The latter type of case is a pitfall to be avoided, since patients having such an injury usually caused by falling or slipping, and extending the palm of the hand to protect themselves may in a great many instances produce very slight symptoms and may simulate a so-called sprain of the wrist. If there is any doubt about the diagnosis an x-ray should always be taken, in order that this finding may be the final word regarding a decision as to whether we are dealing with a sprain or a fracture. A type of case which is frequently overlooked is what is known as a sprain fracture; where there is no complete fracture, or even a linear fracture present, but where there is a tearing of the periosteum with its ligamentous attachment. It is only several months after such an injury that its disabling effects are really noted.

Injuries to the fingers especially a cut in the hand by a sharp article, or instrument, is liable to produce nerve changes and a great many cases have been seen, where the tendon, as well as, the nerve has been cut with marked disabling effects. The question is frequently asked, "can these injuries to the nerves and tendons be repaired?", and one has to be extremely cautious in the answer to these questions. Repeated examinations should be made in this type, in order to determine what permanent disability, if any, will remain after such an injury. Usually the chief complaint is loss of sensation and numbness, in the fingers supplied by either the median or ulnar nerve. A condition which is frequently found upon examination and where the trauma is alleged; is what is known as a ganlion, found upon the extensor surface on the back of the hand just below the wrist joint. The claim is made that this condition has not existed previous to an injury, but that a slight blow or trauma has been the exciting cause. Careful examination will reveal this to be an old condition, and if there is a question of doubt the x-ray will show that this swelling is not associated with the bone but is found in the tendon sheath. Osteo-myleitis of the bones of both upper and lower extremities will be demonstrated by means of lantern slides.

Injuries to the hip including the pelvis are to be thoroughly examined, in order to avoid a carefully laid pitfall. Fractures of the neck of the femur in the aged are invariably associated with impaction of the fragments, and this type of fracture require immobilization, and the patient should be up and about even with a walking caliper, in order to prevent complications such as congestion of the lungs and hypo-static pneumonia.

About six months ago I was asked to re-examine a boy, age five, who had sustained an injury a year previous, where the claim was made that as result of being struck and injured by an automobile, that he had sustained a fracture of the upper end of the left femur, just below the trochanter, and that the youngster was unable to walk without limping, this condition the attorney claiming was of a permanent nature. The examination took place at the boy's home, in the presence of the parents and the attorney for the plaintiff. I had the boy walk, fully dressed, with his shoes and stockings

on, and observed that he walked with a distinct limp of the left foot. My first impression was that this may have been due to the tilting of the pelvis, but in view of the claim made, the thought of a fracture entered my mind. I asked at what hospital this boy was treated, or what the x-ray showed, but this information was refused by the attorney. I had the mother completely undress the boy, and had him stand in front of me. There was no discoloration, swelling, or atrophy of the muscles in the region of the left hip, or upper third of the left thigh. I had the boy walk, which he did in the same manner as before. Then I placed him on his back on the bed and before proceeding with the examination, gave him a brand new shining quarter to hold in his right hand in order to distract his attention. I then examined the right or normal lower extremity observing that there was no limitation of motion at the right ankle, knee, or hip joints. As the left hand was not occupied, I gave him another brand new quarter with the result that he had a smile of contentment on his countenance. Then proceeding to examine the left lower extremity in a similar manner, as the right one I found no limitation of motion at the left ankle, knee, or hip joints. Palpation over the head and shaft of the left femur did not reveal any callus or thickening over this area. There was no atrophy of the muscles of the left thigh, as compared to the right or normal one. The physical examination did not reveal any abnormal condition of the left femur or left hip joint, and I was at a loss to understand why this child should limp in the manner in which he did. I then turned him on his face, and in this position I was unable to make out any abnormal condition in the left hip or upper third of the left thigh. It was now time for action, and so literally taking the bull by the horns, I had the boy face his parents and the attorney, who were sitting on the opposite side of the room, so that the boy was with his back towards me. Taking a toy balloon out of my pocket, I blew this up and suddenly broke it, which caused a loud noise, and this taking the boy unawares, frightened him, with the result that the child, did what any normal youngster would do, run to his mother as quickly as he could for protection. The fracture of the femur had been cured as if by a miracle. What happened to the child after I left, you can draw your own conclusions. The attorney discontinued this case a few days later. This was a carefully laid pitfall which I avoided.

Fractures of the shaft of the femur have to be carefully examined as there is apt to be a shortening due either to the overriding of the fragments or muscular contraction. The great danger that lies in this class of cases is the question that is put to the Expert as to whether these injuries are permanent or not. Also whether there will be a permanent disability remaining as result of said injury. Tilting of the pelvis to one side will readily overcome a moderate degree of shortening:—a lift on the heel and the sole of the shoe will also overcome moderate shortenings. The only permanency that will remain in this type of injury is the fact that the bone has been broken, but as regards function there is as a rule no loss of motion, or function, or use in the lower extremity.

Fractures involving one or both of the condyles of the femur especially if they are of the intra-articular type, and extend into the joint, require special care in the examination because the question of limitation of motion that will remain as result of said injury will have to be taken into consideration. If these fractures are immobilized for a great length of time, there is a strong likelihood of a marked stiffness or ankylosis of the knee. Stereoscopic plates of the injured limb; as

well, as, a normal one for comparison sake will be the determining factor as to seriousness of the injuries or whether a brisment force should be done, in order to break up the adhesions or not, resulting from a fibrous or bony union. Early passive motion, as well as, baths, massage, and diathermy, will go a great way toward preventing the disabilities that occur with fractures of this type. Sprains of the knee are a very common complaint and have to be differentiated from a synovitis, fracture or an injury to the semi-lunar cartilages. Frequently, I have been asked to see a claimant who has sustained a so-called dislocation of the knee, and always ask, "has an x-ray picture been taken?", and the answer is invariably, "No". Usually a claim is made that the injured has been disabled for a number of weeks or months and it is extremely difficult for the examining physician who sees the case many months after an injury, to state whether such an injury existed or not. Taking of an x-ray picture at the time of the injury would be of great aid at arriving at a definite conclusion.

Fractures of the head of the tibia and fibula, when they extend into the joint may produce more or less disabling effects. I have seen many severe fractures as shown by the x-ray where there has been an excellent functional result with no loss of motion of either flexion or extension at the knee joint. On the other hand, there are linear fractures extending into the joint, and on account of the treatment which the injured has received there has been marked ankylosis present, and the claimant will probably be disabled for many months. Fractures involving the shaft of the tibia, especially if they are comminuted, or if there has been a complete fracture with much overriding and displacement of the fragments usually lead to very serious disabling effects. Shortening of the injured limb is invariably present and the point to be remembered is that the tibia is the weight-bearing bone of the leg, and a severe injury to this bone will cause the injured to support his weight on the opposite extremity, in order to protect and save the injured limb as much as possible. Contraction of the tendon Achilles is usually associated with fractures of this type and the disability in this class of cases is usually quite pronounced, in spite of the best known surgical method which we have at the present time for treating these conditions. I saw a very typical case recently at one of the hospitals of this city.

A. S., 70 years of age, a laborer by occupation, was crossing the street on September 7, 1927, when he was struck and knocked down by an automobile. He was removed to the Hospital where an x-ray was taken, and this showed an oblique fracture through the middle third of the left fibula, with a complete transverse fracture of the lower third of the left tibia, with marked displacement and overriding of the fragments. Attempts at reduction were made, and with the use of traction and the stinman nail, the left leg including the ankle, and knee were put into a plaster cast. X-ray pictures were taken at various intervals, and there was found to be a callus or bony union at the fibula but not at the tibia. At the end of two months, there was little bony union, but some fibrous union of the fractured ends of the tibia, and the man was sent home in a plaster cast, and was asked to return in three months. X-ray pictures taken at the end of this time still showed more fibrous union with very little or any callus formation present. When I saw this man, the day before yesterday, the x-ray pictures taken on March 7th, 1928, showed that there was bony union at the broken ends of the fibula, but the overriding and displacement of the tibia had not been overcome, and there was a fibrous union, but

no bony union of the tibia. Clinical examination confirmed these findings. In this case, I do not believe, now, nearly six months after the injury, that there will be any bony union, unless some operative interference is resorted to. Here is a case of not only mal-union but also of non-union in which the disabling effects are of a permanent nature as regards the use of this limb. Of course the age of the injured has to be taken into consideration as bony union is delayed or very slight, in old people. Then again they do not respond as quickly to healing as children or persons in the adult or middle life. In children, greenstick fractures are quite common as the bones of a child have been compared to the limbs of the bough of a young tree, that they bend more readily than they break.

Typical Pott's fracture involving the external malleolus of the fibula and possibly a fracture of the internal malleolus of the tibia on account of the injury associated with the ankle joint are more or less disabling conditions. Here particular attention has to be called to other conditions found in the foot as the claim is very frequently made that there is a permanent disability for injuries sustained. I have seen a great many cases of fractures associated with a marked *Pes planus*, or flat foot; the latter having existed long before the injury and the claim is made that a traumatic flat foot has been caused by the injury in question. A word to the wise is sufficient. Always compare the normal foot with the injured one, and the so-called traumatic flat foot will be found to be bi-lateral instead of uni-lateral as claimed by the injured.

Fractures of the tarsal and meta-tarsal bones are very readily recognized and the Golden Rule is in my opinion, that in all injuries especially of the bones and more so those involving a joint that stero-scopy plate be taken. Don't forget that normal epiphyseal lines will very often be mistaken for fractures extending into the joint. And as an aid in clearing up the diagnosis the clinical signs are of material assistance.

Sprains of the ankle are as a rule not permanent injuries, although, the injured may be disabled for a number of weeks or months. A great many times the examining physician sees a case six months, or even a year after an accident and the claim is made for permanent injuries, such as pain when the weather changes, pain in going up and downstairs. These symptoms are mostly subjective in character, but when any real pathology exists in the soft parts, bones or joints, and examination of the urine, a blood count, or blood culture along with the x-ray findings, will be a great aid in determining the exact nature of the condition we are dealing with.

A class of cases frequently seen are those belonging to the gynaecological division where following a miscarriage or an abortion a permanent disability claimed, namely: that the injured can never be pregnant again. At the time of the accident, they are pregnant two or three months and within a week or ten days following an injury a mis-carriage occurs. Sometimes a curettement takes place shortly afterwards or this operation is delayed for a number of weeks or months. The following case is a typical example of many that I have seen during the past ten years.

On March 3, 1928, I examined L. M., age twenty-five, married, a housewife who lives in Long Island City. This examination took place at the office of Dr. G., an eye, ear, nose and throat specialist, of this city, the doctor and the claimant's husband being present. The attorney, L. B., Broadway, was represented by Miss C. As the claimant speaks very little English the conversation had to be carried on through her husband and the doctor.

History: On September 5, 1925, about midnight, at — Prospect Park, Brooklyn, the claimant was thrown out of bed by the shock of an explosion. No ambulance was called nor did she go to a hospital. The injured stated that she was pregnant two months at the time, and the following day started to flow. A miscarriage occurred a few days later, but no curettement was done. The woman remained in bed for ten days. Two months after the alleged miscarriage her menstrual periods were slightly irregular, sometimes lasting four or six days, and this condition lasted up to three months ago. At this time she had a curettement performed at her home by Dr. Y. of this city. Her claim now is that as a result of the accident two and a half years ago, she has been unable to do any housework ever since, and further states that the doctors have told her that she can never be pregnant again on account of the injuries she sustained at the time of the accident.

Physical examination showed a woman five feet three inches tall, weighing one hundred ninety pounds. Vaginal examination at the doctor's office disclosed that the uterus was freely movable, its position normal, and that there was no prolapse, enlargement, or tear present. Pain was complained of on the right adenexa (right tube and ovary), but external examination over this area did not reveal any pain. Upon bi-manual examination I was not able to feel any enlargement of either the right tube or ovary, the left side was normal. After I had completed my examination, Dr. G. examined her, and exclaimed that he found the uterus very much enlarged, swollen and badly diseased. I made no comment whatsoever.

This doctor is an eye, ear, nose, and throat specialist, and stated that he never saw the woman until she came to his office this day for this examination. The claims in this case appeared to me to be ridiculous. I do not see how such an injury as she sustained could possibly be held accountable for the fact that she had not been pregnant, since. There are a great many causes for sterility and the etiology does not come within the scope of this paper. She admitted that she was not pregnant at all during the first year and a half of her married life. As stated above, the condition of the uterus appeared to me to be perfectly normal, and I could not subscribe to the fact that the accident she sustained two and a half years ago had been in any way responsible for her not having been pregnant since that time. I was very unfavorably impressed with this woman and her claims, for which I do not believe there was any reasonable basis.

This case is up for trial this week and I feel sure that the pitfall planned for me will turn out to be far different than the attending physician contemplates.

In conclusion, I trust that I have pointed out a few of the many pitfalls to be avoided by a Medico-legal Expert, and also to sound a note of warning of a fall, if no heed is paid to some of the ideas incorporated in my address here this evening.

Discussion

James I. Cuff, Esq.—I agree with Judge Dyer that we need the medical expert; otherwise, however, I have to take issue with him. I defend many personal injury cases and according to my experience, we do not seek medical experts for the purpose of overcoming the weight of the medical testimony on the other side. When we select an expert we have in mind primarily one who can ascertain the actual facts and who will give us his honest opinion on the question of the nature and extent of the injuries sustained by the claimant. It is essential that we have accurate information because most of our cases are settled and we are guided in ninety-nine per cent of the cases settled by the opinion and findings of the doctor who makes the examination. We always insist upon an honest report by every doctor who makes examinations in our cases.

In five or six of the cases I tried last month, Doctor Adams was the examining physician in three of them. I found it was

not necessary to call Doctor Adams as a witness because I was satisfied that the medical expert called on the other side was testifying truthfully so far as the nature and extent of the injuries were concerned. The same situation existed in a case tried in the Supreme Court in Brooklyn today. The testimony of the doctors called by the plaintiff was so clearly in accordance with the actual facts that the defense did not interpose any medical testimony in contradiction for the simple reason that our experts, if called, would have corroborated everything that the plaintiff's experts testified to.

There was something said in Doctor Adams' paper about the causes of dishonesty in the cases of medical experts. One of the causes assigned was money. While we are all practical men in this respect, nevertheless, I have found frequently that money is not an influential cause in as many cases as a great many people think it is. There is one group of cases where it plays little or no part and those are the cases which, in my opinion, have brought the greatest discredit upon medical experts. I refer to the cases involving the question of insanity. In those cases, it is not money that influences the expert to forget not only the oath they take as witnesses and the duty and obligation to the medical profession in general, rather it is a question of vanity—the desire to gain what appears to them as a personal victory over the opposition. I have heard alienists boast many times of how they had put it over on other alienists, in most instances mentioning the alienists in question. This is particularly true in murder trials where by reason of the publicity attaching to them the testimony of the experts assumes a greater degree of importance than it really deserves. The reports of these trials are replete with instances that certainly do not reflect any credit upon the medical experts as such and have gone a long way towards discrediting them so that when a case comes along with real merit it suffers by reason of the obliquity that has followed from the action of men who have no respect for either their oath or their high calling.

As I view Doctor Adams' paper, the answer to and the cure for it all may be expressed thus. There will be no pitfalls for medical experts provided they are thoroughly qualified by reason of training and experience; that they make an exhaustive study of the particular case and finally that they render an honest opinion. No one can criticize a doctor so long as he testifies honestly in accordance with the facts as he found them.

Leo T. Le Wald, M. D.—There are three points I want to emphasize. First, the relationship of *adequate* cause for a particular condition that is found. I have seen a roentgenologist, who has not received any history of the case, on looking at an x-ray film make an unqualified, positive statement, such as there is a compression fracture of the lumbar spine. The appearance might have resulted from some old developmental condition, and the patient might never have suffered any injury. Second, variations in individuals; there are no two individuals alike. This is true of all parts of the body and not just of the face or the finger prints. I have known of a case* where x-ray negatives have established the identity of a dead man, and that to the satisfaction of the lawyers involved in the settlement of a valuable estate. Medical students should be taught that developmental conditions sometimes exist in the body which, if an injury is experienced, may be later erroneously attributed to the injury. I will illustrate this by a case of double petella in one knee. It could easily have been mistaken for a fracture. Another case showed large grooves in the skull for blood vessels; this man, or one with a similar appearance, was told he had seven fractures of the skull, but there was no adequate cause for such a fracture. He had simply bumped his head on a low attic ceiling. Another case was a boy born with one extremity than the other. In this case if a fracture had occurred in the shorter leg the surgeon might have been wrongly accused of malpractice from the findings of shortening which might have been erroneously attributed to improper setting of the fracture. The fact that no two lower animals of the same species are alike is proven by the fact that no two zebras show the same pattern in stripes, which in fact very closely resemble magnified finger prints. An African explorer has verified my opinion in relation to this interesting question.

Third, I wish to put in a word of caution against mistaking the appearance of an old injury for a new one. I regret very much to say that at times I have been led to believe that individuals with known old injuries have tried to collect damages more than once for the same condition. On the other hand at times the very difficult question arises as to whether an old condition has been *aggravated* by a recent injury. Unless there is evidence of a lighting up of an old healed bone lesion, for example, or some other tangible evidence to substantiate a claim of this sort I am not in favor of allowing it.

* Identification by Comparison of Roentgenograms, Culbert and Law, Journal American Medical Association, May 21, 1927.

Dr. Adams (closing the discussion):—I regret owing to the lateness of the hour that I cannot discuss the interesting remarks made by the various gentlemen who were kind enough to discuss my paper. Mr. Cuff's remarks were exceedingly illuminating and there is no doubt that the doctors he referred to, especially the so-called Insanity Experts, that these men have done much to bring the medical profession into disrepute regarding Expert Testimony.

In conclusion, I wish to express my thanks to all those who took part in the discussion of my paper here this evening, and if one idea or thought is carried away by the various members this evening, I feel that my time has not been spent in vain.

The Relation of Food to the Intestinal Bacteria

(Concluded from page 316)

I. Fat diet may increase either putrefaction or fermentation of intestinal contents.
Normal end-product acid.

In view of these findings, a strong presumption is warranted that we are correct in following the dictates of experience to the effect that the variety of food eaten for our sustenance is also nutrient material for certain types of bacteria, and that these bacteria cause chemical disintegration which yields known products.

The treatment of colonic diseases has become a biochemical problem from the observations of the bacteriologists. From Kendall, Herter, Rettger and many others who have studied the relation of food to bacteria in the intestinal canal, we draw conclusions that proteids, fats and carbohydrates enter the intestine and are changed by the action of fermenters, bacteria and heat to become end-products of nutrient material, besides many known and unknown chemical combinations and toxins. The presence of amino-acid, histidin, and the toxic amin histamin is due to bacterial action. The *B. coli* acting upon amino-acid tryptophan produces indol. Bacterial activity on certain sugars produces formic acid, and the *B. coli*, acting on formic acid, results in sodium formate, and if the bacterial activity persists, a final conversion to sodium bicarbonate results.

It has been my experience that implantation of the *B. acidophilus*, by excessive feeding, or by instillation through the rectal tube, will fail. The benefit of either method is temporary if the proper pabulum is not introduced into the alimentary canal in the form of food, because the desired bacterial growth will not become permanent. The fundamental principle of feeding the patient for the propagation and stabilization of these bacteria within the intestine is necessary.

Summary

I. The positive presence of bacteria within the intestinal canal is beyond question.

II. The entrance of bacteria from outside the body, in relatively small numbers, is also undoubted, but the propagation and stabilization of bacteria within the bowel, over long periods, shows that their existence is dependent upon the contents of the intestinal canal.

III. Animals select through necessity different forms of food and parasitic life varies accordingly.

IV. The cultivation of the different types of bacteria is not dependent upon the food we eat and digest properly, but upon that portion of the food we eat and do not digest properly. It is this undigested, unassimilated portion that affords a favorable pabulum for their consumption.

V. We can lessen or increase the relative proportion of intestinal bacteria by an unbalanced or undigested diet. Therefore, if we change the diet, we change the bacterial contents.

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Education From Insurance Experience

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When the power of organized money directs effort to attain a given purpose, it takes advantage of every available resource at a minimum of cost.

Judgment in securing the highest return upon money investment is based upon the factor of probability or safety.

Financial stability and the control of large money centers is to a great extent dominated by the availability of insurance loans.

The operable law of probability in the affairs of human existence exerts a control that is nothing less than world wide.

Stability of finance and the success of commerce become grounded upon this operable law of probability, being guided by trust accumulations in the form of savings deposits as insurance premiums and the interest earnings thereon.

Sound business management and fiduciary relationship require that insurance premiums be safely invested, for long periods of time, at relatively low but assured interest rates.

The vast values in surplus accumulation and reserve creation, held in trust for emergencies, such as increase in death rate from war, epidemics or other calamities, require insurance companies to scrutinize carefully every feature that pertains to the affairs of mankind. In reality all business engagements of life are conducted in conformity with the operable law of average, or with regard to the probability of the average person living a definite number of years and escaping accident and disability.

In compliance with the operability of the law of average, insurance companies attach a price or tax upon every condition that may be viewed as reducing longevity. It represents the identical factor which applies to our lives in other particulars, as for instance the determination of income tax for government cost in protecting the state and the home. This all operates upon the basis of probability in loss, waste and cost and is the identical feature that bases all business form.

With a view to lessen the cost for mankind and in expectation of extending benefit to man and making his life more enjoyable thereby, certain insurance companies have instituted a campaign for instruction in health requirements.

Through long and painstaking study and experience, insurance companies show the fallacy of certain theories and conditions that were formerly deemed of importance in affecting physical conditions. They have also added to the knowledge of the dangers that repose in neglected, minor and seemingly insignificant infections and physical defects, and which often prove insidious in undermining health and in shortening life expectancy.

Intensive educational privileges are available to the layman as well as to the physician through published data of insurance companies, which relate to health-influencing conditions, localities and habits, and which are gratuitously furnished to applicants upon request.

While a study of such data may not provide the physician with any certainty of the appearance of disease types or of accidental occurrences which will probably require the physician's attendance, yet the probabilities of definite complaints appearing at certain ages,

with the probability of recovery as well as the average termination of various afflictions, furnish material illumination.

Three general types of ailments require most of the medical attention extended to the sick. These are the recurrent or frequently complaining or semi-invalid type, those who may be expected to be ill under the ordinary conditions of life and environment, and those whose ailments occur in the midst of seeming health.

The chronically affected show a greater percentage of mortal termination as a result of their afflictions than we realize. Fifty per cent of these cases die within the first three years of the onset of their ailments and twenty-five per cent more die within the next four years.

The first three-year period includes the more rapidly acting pathologies of cancer, many tuberculous infections and the graver blood alterations, with or without related septic conditions such as the graver endocardial pathologies.

Insurance companies find that partial or total disability claims occur earlier in ailing persons than medical experience confirms. When unprotected by insurance, the affected person attempts to work or attend to business until exhausted or until physical incapacity precludes further effort.

Tuberculosis claims the highest number of disability allowances, automobile accidents second, and rheumatism and nervous disorders in the order named.

Many so-called nervous affections are really of luetic origin, and many of the so-called rheumatism claims are of venereal origin, either luetic or due to the Neisserian cocc.

There are in general four types of disability claims. Many of these are recurrent attacks and so involve the question of luetic basis. Related structures with associated or similar functions give frequent involvements of heart, lungs, nerves and joints, all of which possess a form of synovial surface and all of which become involved in certain percentages of luetic pathology.

Age is a factor of importance in disability occurrence. A significant example pertains to luetic manifestations which show for the most part in the middle years, the younger and older ages being relatively uninvolved.

In the United States and Canada, a physician in general practice may expect that 64 out of 100 observed mortalities will occur from the following causes: Heart disease, twelve; tuberculosis, eight; accidents and violence, eight; chronic nephritis, seven; cerebral hemorrhage, six; pneumonia, five; broncho-pneumonia, four; arterial disease, two; one each from appendicitis, diphtheria and puerperal infection.

The mortality occurrences at certain ages show on the average as follows: Arterial disease at 76; cerebral hemorrhage at 71; nephritis at 70; heart disease at 69; cancer at 67; diabetes at 61; pneumonia at 53; accident or violence at 43; appendicitis at 39; puerperal infection at 30, and diphtheria at 7.

Of the eight principal causes of death, five pertain to the older years of life and none are typical of the younger years.

Beginning with the fifty-second year of life, mortality percentage increases materially. However, disability occurrence shows a heavy percentage at much younger ages than this.

Insurance survey finds the heaviest disability occurrence arises from tuberculosis, which is located in excess in certain districts, such as the Province of Quebec, Canada, and in several of the Southern States of the Mississippi Valley.

Attempt at control of the external factors causing infection has created an intensive study and understanding of internal conditions of the body which are involved in diseased states.

Consideration of the type of insurance applicants who are classified as "hazards" has created a rather profound study of the health-affecting factors which involve the physical conditions of these prospects for insurance.

In insurance parlance, "hazard" signifies a potential claimant. Applicants who show certain observable indications of subnormal physical states are to be regarded as liabilities, or as expectant claimants for insurance benefits at an age or under conditions which do not attach to the average age of similar normal persons.

The "hazard" class includes the pronouncedly underweight, the twenty per cent over-weights, the pallid and non-robust, those with history of infections of the severer types, those with suspicious cancer history, those who co-reside with tuberculous sufferers, hypertensive cases and those who are suspiciously or actively luetic.

Insurance companies grow in leniency in matters of requirement for perfection of physical state or health history of applicants, yet they show little disposition to minimize the dangers that are deemed lurking in the "hazard" typed individual.

The longevity benefits that mankind has attained within the last few decades are in part due to the increased requirements that are shown upon the part of medical schools for graduating matriculants and the definite stand for competence that state licensing boards require upon the part of applicants for license to practice medicine. To these are to be added the benefits accruing in the advancement of scientific achievement which gives modern remedial measures and more accurate diagnostic assurances.

The advancement in diagnostic privileges serves to show that many of the ailments developing in the later years of life really originate in infancy, childhood or the early adult years, developing through a process of non-adaptation of the histologic limitation of the aging cell.

Overwork, exposure to cold, improper or insufficient food, unhygienic practices, insanitary surroundings or neglect of minor infections, may develop through interrupted or recurrent attacks of slight degree, to great damage from severe infection. From sites for focal infection, there are extended effects that result in inflammatory and degenerative conditions, in greater part these being found to be caused by the attack and effect of the familiar pneumo-streptococcal forms of germ growth.

The reason for chronic change is now recognized as frequently originating in some infection that is implanted in quite early years, to attain a recognizable importance years later.

Many infections that induce a mortality in mature or subsequent ages, lay a foundation for tuberculosis, nephritis, cardiac disease or nerve degeneration, and originate in some such early infection as scarlet fever, diphtheria, meningitis, pertussis, measles, typhoid or other recognizable condition or ailment.

Typhoid fever, for instance, which for years has been given ten per cent mortality, is now recognized as creating a late mortality of five per cent additional. Such

remote and long delayed effects can not be forecast through public health reports and are only to be anticipated through the revelations of scientific medicine now in process of growth.

The momentum that has been given to the requirement for an early recognition of cardiac pathology, shows that two per cent of the population of our country suffer from cardiac affections.

A quarter of a million deaths occur annually in the United States from cardiac causation and for each one of these deaths there remain ten defective hearts in the living.

Of these cases of defective hearts, twenty-five per cent originate in rheumatic infection and ten per cent more result from lues.

Fourteen per cent of mortality from heart affections occur in the younger years of life.

Thirty per cent additional heart affections occur today than were shown existent twenty years ago. While a definite percentage of these cases are revealed through more sensitive methods and careful consideration in diagnostic exclusion, yet an increasing heart mortality is in evidence.

The colored race shows a heavy death rate from heart affections. In great measure this is due to the increase in luetic infection that is attending the growth of the colored race, especially in the Southern states.

A very few years ago government survey showed that about four million syphilitics lived in the United States. Today the same method of determination now estimates that about nine million luetic persons live within the same area. Much of this increase has occurred in the colored race. MacNeil found, in Galveston, that 25 to 30 per cent of the colored population was luetic. This probably represents too low a figure, for the clinical experiences of other Southern cities give a far larger estimate for luetic prevalence in the colored people.

Lues, and especially lues accompanying over-weight, produces much of the hypertension that exists today. Larger percentages of hypertension, however, occur in over-weight persons who are not luetic.

Over-weight is probably the most commonly noticed and recognizably neglected physical condition that we find. Nearly every family of our country can boast of one or more members who sooner or later carry over-weight.

The ratio of over-weight cases increases perceptibly after the age of 35 years. From the age of 45 to 54, evidence is usually quite manifest of over-weight effects. Often the symptoms and signs become alarming within a fairly short time and are frequently misinterpreted or permitted to continue by refusal to correct weight errors, despite the known dangers that exist.

Seventy-five per cent of over-weights eventually show physical impairments which require medical attention and twenty per cent more are in serious condition.

Symptoms resulting from over-weight accumulation are frequently experienced in dyspnea, palpitation, swelling of the lower limbs, painful feet, difficulty in walking, distension or pressure in the abdomen, headache and the usual blood pressure elevation. All such evidences are usually relieved or removed by reduction of over-weight, through proper dietary restriction, rigidly followed.

Over-weight frequently produces abnormal urinary findings, casts, albumen and glycosuria being of common observance.

Histologic study of the organic cell and pathologic appraisement of its change finds much of the origin of

ailments a result of weight accumulation. The cell becomes overcharged with needless waste, the cumulative condition finally resulting in a degenerative state. Back of this, too, will occur the toxicity which finally, probably, destroys cell nuclei, assisting the pernicious effects instituted by concealed foci, probably residing beneath some ponderous and fancy dentistry, which still finds ready sale throughout our country.

Here is based much of the cause for the present-day hypertension and the provocation for many of our cardiac defective states which require so much attention and create heart mortality.

Increased fragility of cell is quite apparent at the age of fifty years, and when upon this is added a strain in weight accumulation, progress of decline is hastened.

It is easily understood from the viewpoint of physics. Additional heart effort is required to push blood through the extensive capillarity that is created for and built within fat accumulations. There is also required an increased effort to dispose of the greater waste production.

Regardless of cosmetic appearances and detriment to artistic lines, weight accumulation creates increased cost, incident to the average individual of a country which grows more luxuriously inactive, and invites daily an increased restriction of physical activity that is unapproached in any historical record and today unparalleled in any other country.

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Notes on Internal Medicine for the General Practitioner

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Treatment of Arterial Hypertension. Frequently a patient's blood pressure will be increased as a result of a physical examination. In some persons the slightest nervous tension will make the pressure advance ten or twenty mm. of mercury. Aneroid apparatus should be checked with a mercury one occasionally. It is useless to reduce the arterial pressure by artificial means, such as nitroglycerin. The iodides have the disadvantage of disturbing digestion. It is a mistake to make patients apprehensive about their condition, therefore it is well not to take readings at too frequent intervals. There are so many people working daily with a pressure of over 200 who continue to do so for years that it is unadvisable to make invalids of them. Nothing is so pathetic as a blood pressure invalid, afraid to do anything, dwelling upon his trouble. In old age there is often a period (during the sixties) when the pressure automatically goes down and remains so. At the same time it is not unusual when the pressure is reduced for symptoms of angina pectoris to appear and the patient may not feel as well with the lowered tension. However, if he will allow time enough to readjust himself (usually from six months to a year) he will then live in comparative comfort. It is well for such patients to always have nitroglycerin coated pills, gr. 1/200, for relief of angina. Golf has its dangers in advancing years because of the strain on the heart and blood-vessels and usually too much exercise is crowded on the links. This type of patients requires regular exercise, every day. Golf cannot be played every day because of weather conditions, as a result of which the heart receives too much strain, especially since the arterial pressure usually increases as a result of too violent exercise.

Focal infection, especially of dental origin, is an important factor in arterial hypertension, frequently causing an increase of ten or twenty mm. of mercury, only to be reduced as a result of the removal of the focus. It should be remembered that it may require from six months to two years to repair the damage done by focal infection even after the focus has been removed. These early cases of increased arterial pressure require careful study. Some patients are so sensitive to focal infection that a very small area around the root of a tooth will cause considerable advance in blood pressure. The other sources of focal infection will cause the same condition. It is not always easy to detect focal infection in the teeth because the x-ray will not always reveal it. Pulpless teeth, undetected by x-ray, may cause damage. It

requires keen discrimination to detect the trouble. The tonsils should be removed if liquid pus can be expressed from them but the offensive caseous matter so often found in tonsils is not an indication for their removal.

An alkaline diet seems to be the best we have at the moment, although many of my patients seem to do as well on a general diet, avoiding overeating. I frequently allow my hypertensive patients to eat red meat daily and to take all the coffee they desire and they apparently do as well as others on a strict regime. I do not care to advocate this treatment, however. An alkaline diet consists of fruits and vegetables. Prunes, cranberries, meats, chicken, fish are acid foods and should be avoided. Milk and unfermented cheeses and nuts, except peanuts, are allowed. Neutral foods such as cream, butter, sugar, tapioca and slightly acid foods such as wheat products may be permitted.

In fine, the diet should consist of plain, simply cooked foods: fruits, vegetables, nuts, milk and unfermented cheeses. All fried, greasy and rich foods, thick gravies; all bulky, heavy, mushy foods, which tend to dilate the stomach, such as puddings, should be forbidden. Also all condiments; lemon juice should be used in place of vinegar. An ordinary amount of salt may be used in cooking but none added at the table. Coffee seems to be harmless except in certain cases. In fact, it may be beneficial by causing vaso-dilation.

Bromides are of great value, relieving as they do nervous irritability. I usually prescribe five grains of ammonium bromide night and morning and I feel that in the average case that no other medication is required. Of course, there would be no point in giving bromides unless the patient showed nervous symptoms. A laxative should be taken daily if required; a saline in the robust patient and an infusion of senna for the physically frail type.

The patient should protect the heart as much as possible by not attempting to accomplish too much in a day. Climbing stairs should be avoided as much as possible. These patients should reduce if overweight and it is often possible to do this by merely eliminating cream, butter, bread, potato and desserts from the diet. It is surprising how much can be accomplished in overweight patients by following this simple method.

Blood pressure readings two or three times a year are

(Concluded on page 336)

Dark Field Demonstration of Spirocheta Pallida

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Modern syphilology depends on laboratory procedures more and more. Since Schaudinn and Hoffman demonstrated the Spirocheta pallida, and its acceptance as the etiologic factor in syphilis infection, it has become recognized that all or at least practically all purely clinical criteria for the diagnosis of the initial lesion of the disease pale in comparison with the dark field illumination method of examination of material from the suspected lesion.

Early syphilis is a curable disease. The demonstration of the Spirocheta pallida is proof positive of the infection, and treatment is indicated immediately. I have some time since divided the early phase of syphilis as period of chancre, negative blood Wassermann, and no evidence of secondary or wide spread lesions. This stage is most successfully eradicated. The next phase of syphilis is the SILENT GENERALIZATION stage. The chancre is present, there are clinically no evidence on skin or mucous membrane of syphilitic lesions of the secondary type, yet the Wassermann is positive. We conceive of local invasion of the draining nodes of the area of the chancre, and from these further spread throughout the body. Hopes for absolute cure at this phase are good, but one should not wait for a positive Wassermann.

The method of choice for the diagnostic demonstration of the Spirocheta pallida is by the dark field illumination method. The requisites are: the modern compound microscope; oil immersion lens; "funnel stop"; source of intense illumination; thin slides; cover slips; and immersion oil.

There are two types of dark field accessory provided. One is the plate or superstage, and the other is the condenser or substage. To use the plate or superstage dark field type of instrument, one strips the microscope of its condenser so that the stage of the microscope is free both above and below except for the mirror. The substage instrument replaces the ordinary Abbe condenser. Both types of instrument must be centered. Each has a small circle engraved upon it. We use the low power and find this circle. It is necessary to manipulate until the center of the circle is immediately in the center of the field, and equally illuminated for its entire circumference. Some of the instruments have a double circle engraved upon them.

The oil immersion lens must be equipped with the "funnel stop". This must fit inside the lens, and acts so as to limit the light rays to the central beam. Some manufacturers supply the funnel stop alone separately, and others have this arranged permanently within the objective.

The modern powerful tungsten bulb within a suitable reflector gives ideal light. The mirror should be the plane mirror. It is sometimes necessary to experiment a little to get ideal lighting conditions, but this time is well spent. It is best to give the attention to this detail, than to waste minutes trying to work under adverse conditions. I have found that it is a good idea to have the work room darkened during the use of the dark field microscope.

Material from a lesion which has recently been subjected to strong antiseptics as calomel, or bichlorid of mercury, make the successful hunt for Spirocheta pal-

lida difficult. It is best to arrange for a wet dressing of saline solution for several hours prior to the examination. The physician should take proper precautions against infection. Node puncture has been recommended but I have not been successful with it.

The surface of the lesions should be wiped, and the superficial debris removed. The denuded surface should be briskly rubbed, but bleeding should be avoided if possible. Sufficient serum may be had by squeezing the lesion, and this is transferred to a clean slide. The thickness of the slide to be used is indicated on the dark field apparatus. Slides which are scratched should not be used, and it is preferable to use new slides in this work. The serum is covered with a clean cover slip. Oil immersion is placed on the under surface of the slide and on the upper surface of the cover slip. This insures a continuous path from the dark field to the oil immersion.

Lower the oil immersion into the oil on the cover slip, almost but not quite touching. If it touches, and the serum is scanty, the cover slip may move up when you adjust the focus. Focus with the fine adjustment until you see the dark background. Glistening dancing particles move about this field, and one may see perfect rings of white. The small particles are minute organisms or colloidal bodies. The rings are the outlines of red blood cells. The white blood cells may be recognized. When this field has been obtained, search for the gleaming, twisting spirochetes.

The Spirocheta pallida may be as long as or twice as long as the diameter of a red blood cell. The number of spirals are from eight to twenty-four. The reason for the disparity of the number of coils may depend upon the fact that one is dealing with a single, double or giant form. It is not decided whether these longer forms are accidental or whether they are part of some biologic process of the organism. The spirals are very regular and of the same height throughout. The turns seem perfect, so that one imagines it were possible to run a rod through the center. The motions of the Spirocheta pallida are: a spiral or corkscrew motion about a central axis. This "bit" motion is very regular, and the spirals are kept at the same height throughout. The second motion is forward and backward in the serum, staying in the same field for a long time if no currents are set up. This motion is in a straight line, there being no inclination of the body of the organism. If several organisms are joined, apparently, by the feathery like propellers at each extremity, the motion may be different. "Y" forms and "V" forms are both seen in the dark field specimens. Each part wriggles, twists and squirms as if it were making an effort to part from its partner. There is another motion of the Spirocheta pallida. This is an up and down motion in the serum making it necessary to focus to keep the same organism in sight during its excursions.

Thick, medium, and thin forms of the Spirocheta pallida have been described. A complex life history has been advanced, but speculation is beyond the scope of this paper. Any recent text-book should be consulted by the more interested reader.

There are a number of other spirochetes which should
(Concluded on page 332)

Human Types

By I. L. NASCHER, M.D.
New York

There have been many classifications of humanity—by temperament, race, nationality, physical characteristics such as color, shape of head, arrangement of teeth, build, etc., physiological characteristics dependent upon glandular activity, mental capacity, and other factors. A classification based upon social relations depending upon race preservation expressed in sexuality is, I believe, new.

It can be shown that in both sexes there are distinct types which may be called breeders, partial breeders or companions, neuters, partial inverts, and complete inverts. These types differ anatomically, physiologically, mentally, and in their social relations. Consider, for example, the female breeder. Whether tall or short, stout or lean, there is always a wide, well-formed pelvis perfectly adapted to child bearing, and full breasts with good nipples for nursing. Thyroid and ovarian interstitial secretions are active, menses occur regularly and without particular discomfort, and pregnancy proceeds without distress. This, of course, presupposes that there has been no adventitious cause for malformation or mal-position of the reproductive organs. After childbirth, the breeder is able and anxious to nurse her offspring. Her mental trend deals with home and the care of children. The race preservation instinct is strongly developed and she will seek a mate who, like her, wants to establish a family and who will be a protector and supporter of that family. Having strong domestic and maternal instincts, the breeder wants a permanent home where she can bring up the large family that she expects to have. Where perfect understanding exists between breeder mates, no effort is made to repress the libido and no attempt is made to prevent procreation through birth control measures or perversions.

The male breeder does not present many obvious anatomical features which would distinguish him from other types. There is usually a hypertrichosis on chest, abdomen, back, about the genitals and to lesser degree upon the extremities. After the male climacteric this excessive hairiness diminishes all over the body. The genital organs are well developed, easily aroused to activity and recuperate rapidly even after prolonged and exhausting activity. The mental trend of the male breeder deals prominently with home and family, not so much with their direct care as with supervision and provision for their maintenance.

In their selection of mates male and female breeders are guided primarily by domestic qualities. The man seeks the woman who is a good housekeeper and gives promise of becoming a willing and watchful mother. The female seeks as her mate one who is a home man; one who wants to establish a permanent home. While facial beauty or physical charm may be the initial attraction this soon becomes subordinated to those factors which will insure a family and a permanent home. Sometimes beauty itself is but a minor attraction and the homely girl who is a good housekeeper and the man who has no other outstanding characteristics than his ability as provider and home maker, secure suitable mates of their type. The men and women of this type, being engaged in the most important work in the world, namely, the creation and preservation of the family, are usually serious, undemonstrative despite strong emotions, intensely affectionate, transferring this sentiment,

in whole or in part, upon the progeny. This type comprises the great mass of humanity. It is most prevalent in certain races, as among Jews, in certain nationalities as among Germans and Italians and among certain stations of life as the middle class.

The companionate or part breeder type is a type that has increased enormously in this country and to some extent in other countries during the past two decades. Men and women of this type have the race preservation instinct slightly developed, marry in obedience to social convention, and may or may not establish permanent homes and raise small families, rarely exceeding two children. In their social relations the two sexes are primarily companions, mating and the establishment of a permanent home and a family being secondary or incidental factors in their married life.

The female has distinctive anatomical features which have departed from anatomical features of the breeder type in a single generation. The practice of wearing tight brassieres from puberty, thereby preventing the development of the breasts, and strenuous gymnastics and athletics involving the chest muscles and wasting the tissues of the breasts, make these organs unsuitable for their natural purpose of nursing. Violent athletics such as rowing races, running, leaping and the tug of war, during the developmental period, lead to postures and other displacements of the pelvic viscera, making future child bearing and childbirth more difficult. It is not unlikely that the vagaries of fashion, especially the high heeled shoes which raise the heels from an inch to nearly two inches above the ball of the foot and cause an abnormal posture, produce a slow, gradual change in the shape of the pelvis thereby increasing the difficulty in childbirth.

There is a marked difference in the mental attitude between the breeder and partial breeder types. While the breeder is concerned mainly with the home and family, the partial breeder is concerned mainly with herself. The instinct of race preservation urges her to seek a mate but she selects one who will be a companion rather than the protector and supporter of a family.

The revolutionary changes in the social and economic relations between men and women in the past generation have created a spirit of social and economic independence in the female. Where the maternal instinct is strong this spirit of independence will not suppress the desire for home and family, but in the female partial breeder this instinct is either not strong or it is overcome by the feeling that she can get along without the protection and support of a man. She seeks man's companionship and in obedience to social convention will marry. If she marries a man of the same type they will seldom establish a permanent home unless pregnancy and childbirth occur. Usually neither is desired and years may elapse before there is any progeny and this often happens through accident rather than design. While women of the breeder type look forward with joy to maternity during the first year of their married life, the partial breeders look forward to this event with dread. Not only do they fear the period of childbirth itself, they dread the withdrawal from society which the care of a child entails. In this type the mother cannot nurse her child, she leaves the child

in the care of a wet-nurse, later of a governess, and there is never the affection for children that is found in the breeder type. She is not domestic, does not take kindly to housework and prefers to be economically independent by supporting herself in a commercial or professional pursuit.

The male of this type differs little anatomically or physiologically from the male breeder. There may be less hirsutes, greater physical charms deliberately fostered to attract a companion and there is usually less virility, but there may be great physical and mental activity. There is however a great difference in mental trend and temperament. This type cares little for home or family, prefers an ever changing environment, is usually what is known as a good mixer and is far more promiscuous in his relations with the opposite sex than the man of the breeder type. He has a roving disposition and while he may stick to one job for years, necessitating a prolonged residence in one locality, he does not want a permanent home. He wants the companionship of the opposite sex but is not attracted to the domestic breeder type of woman. In selecting a mate he is impressed more by her beauty, companionableness, love of sport and perhaps her earning ability, than by her ability to cook a meal or ply a needle.

This type of men and women enters into what has recently been called "companionate marriage," really an agreement to live together so long as it is agreeable to both parties. This vicious arrangement precludes the establishment of a permanent home and a family and is characteristic of the trend of social relations between men and women of the partial breeder type.

Little need be said of the neuter type. Men and women of this type are frigid and sterile sexually and usually lead hermit lives. Knowing that they lack something in their make-up that most persons possess, they are serious and often morose, have few friends and, having no race preservation instinct, do not seek the companionship of the opposite sex unless it be one of the same type.

The female is often domestic in her tastes but has no maternal instincts, and while desiring a permanent home she gives no thought to nor makes provision for a family. The male, too, is usually domestic, maintaining a little home for himself. I know two couples of this type who married. In both cases there was the same incentive—companionship, the need of the men for housekeepers for their homes, and the need of a provider by the women. They married to avoid unpleasant comment. Both men were officials in women's organizations and had businesses in which they dealt mainly or exclusively with women.

Men of this type are usually mild mannered and appear rather effeminate, having little hair on face or body. The genitals are small and while erection is possible there is no erotic sensation and seldom an orgasm. The women range from the masculine to the shrinking girl type, have infantile reproductive organs and are devoid of erotic sensations.

Partial and complete inverters are human paradoxes misunderstood by most persons who class them as perverts. The pervert has all the characteristics of his own or her own sex, is normal anatomically, physiologically and mentally, but has developed a vicious liking for abnormal sexual relations. The invert has congenital characteristics of the opposite sex. The complete male invert is distinctly feminine, mentally and physically, possessing poorly developed male genital organs. The physical contour is that of the female; the sloping ramus of the maxilla and the absence of facial hair give the

face a soft feminine appearance. The breasts and nipples are deliberately developed to appear full and the individual often wears corsets to constrict the waist and give his body a female outline. Having feminine traits and desires he resorts to the measures employed by women to enhance their charms, wears female attire whenever he has the opportunity and can do so without fear of arrest. At other times he will wear long stockings and other feminine articles of wear that can be hidden under male dress. His voice is high pitched and his conversation deals with subjects which are of special interest to women. His social relations are almost exclusively with men of his own type, rarely with women of the same type, almost never with normal women, who abhor this type of man. The invert is homosexual. I was permitted to be present at a meeting of "urnings," as they called themselves, in a European city some years ago. Some of the members appeared in women's clothes, were rouged and powdered, and had I not known that they were male inverters I would not have believed that they were males. They would not associate with perverts, who, they said, discredited them and their practices. Among the members were artists, poets, dress and millinery designers, female impersonators on the stage and professional exhibitionists. They lived alone or with male partners, keeping house as a married couple would keep it.

The female invert has masculine physical and mental characteristics. She is usually masculine in build and appearance and has sometimes the distribution of hair as in the male. One who appeared as a male from puberty until she was exposed twenty years later, raised a beard and had a supply of hair upon body and limbs. Women of this type have usually undeveloped reproductive organs and breasts and frequently there are absent the flaring ilia of the female pelvis. I questioned perhaps a score of women of this type and found that only three had regular monthly menstrual periods, a few had vicarious menstruation, while others had never menstruated.

The female invert has the masculine trend of thought and tries to appear as masculine as possible. She will don men's clothes or as much as she can without coming in conflict with the law. Women of this type have no social relations with normal men but in their business or professional relations talk and act as men would talk and act. The better educated ones enter professions that were formerly closed to women or become artists, writers, politicians or follow distinctively masculine pursuits. Like their male counterparts they are homosexual, living alone or with female partners of their own type. When such partners establish homes, one takes the part of the husband and the other takes the part of the wife in the ordinary home. The female "husband" or tribad is usually the larger and stronger of the two while the other is under complete subjection to her mate. I visited one such home in which the tribad wore male attire, smoked a pipe and ordered the other around to do the housework just as a tyrannical husband might do. Occasionally a woman of this type will live with a man of the same type or with a partial male invert or male neuter but their relations are as of two partners or chums. The partial invert has some of the characteristics of both sexes. The males and females approach the inverters in physical characteristics but they do not make the efforts of the others to resemble the opposite sex. They try to appear as individuals of their own sex and try to suppress the unnatural traits and desires. Let me quote from a letter from one of this type whom I knew intimately:

"While I have always endeavored to do a man's work, I have always been under the influence of woman's instincts. I have always liked woman's work."

He enlisted in the Civil War to escape the ridicule of men who called him "sissy" because he preferred housework, sewing, knitting and similar tasks to more masculine occupation. He married to show that he was "a man" but said in a letter to me:

"For my part the marriage relations physically were more of a burden than a pleasure to me as my desires were almost entirely toward the male."

Other men of this type have expressed the same trend of thought and desire. Individuals of this type, male and female alike, are generally serious and often morose as they realize that there is an abnormal conflict of the masculine and feminine natures in their make-up. When desires become imperative they resort to homosexual practices which they regret later when the desires are gratified or suppressed. These men and women, both, have periods when there is a sincere desire to establish a home and family, periods of indifference and periods when the inversion predominates. Often, however, there are periods when the breeder and the invert instincts struggle for mastery, when pride and reason urge the retention of one's manhood or womanhood while the invert instinct creates abnormal desires and situations. In no other type of humanity are there such terrific mental struggles as occurs in this type during these periods.

In this classification of types of humanity we have three outstanding types; the breeder, the neuter and the invert. These are permanent and nothing that we may do can change them. The intermediate types, the partial breeder and partial invert, can be modified so that both can become more closely allied to the breeder type. After all upon the breeder type depends the preservation of the race.

Spirocheta Pallida

(Concluded from page 329)

be known. The Spirocheta pertenuis or pallidula of Frambesia tropica or Yaws is practically indistinguishable from the Spirocheta pallida of syphilis under the dark field. In my tropical work I found that it seemed possible to distinguish the two by staining: the Spirocheta pallida maintains the regularity of coil, but the Spirocheta pallidula does not.

The Spirocheta refringens may be encountered in smears from the genitals. This organism is coarser, has a smaller number of coils, the spirals are irregular, and one spiral or more are progressing out of tune with the others. Smears from the oral cavity are contaminated with Spirocheta macrodentium, microdentium and buccalis. The macrodentium is coarse, but the last two mentioned must be studied as to motion, regularity of coil, and even height of spirals to be differentiated. Incidentally, a study of the usual mouth flora will be well repaid by the wealth of information obtained. Tooth cavities, and the spaces between teeth are the sources of this material. It will be surprising to most to have revealed an infinite number of spiral organisms. The healthy mouth shows numerous saprophytic spirochetes, and the mouth in disease shows others. Vincent's infection, avelolar pyorrhoea, and ulcerative stomatitis are held to be caused by pathogenic spirochetes.

The demonstration of Spirocheta pallida may be useful in other lesions than the chancre or suspected chancre. The mucous patch, the moist hypertrophic papule, the condyloma latum lesion, each may yield the

organism, as well as moist lesions of congenital syphilis. On the other hand, and equally important, the failure to demonstrate the spirocheta pallida at any one examination does NOT exclude syphilis. Repeated searches must be made of all suspected lesions, and many innocent appearing ones. The demonstration of spirocheta pallida makes an absolute diagnosis. It is confirmatory to clinical judgment and knowledge. It has taught us that many erosions and so-called soft chancres harbor the pathogenic Spirocheta pallida of syphilis. It has advanced the time of initiation of antisyrphilitic therapy when and where indicated. The dark field has helped reduce the incidence of syphilis by detecting the infectious lesions earlier.

Staining methods for the detection of Spirocheta pallida are available. At one time I worked side by side with a physician who used the India Ink method. Even at that time, when imported India ink was available, he was never enabled to show as many positive as were detectable under the dark field method, using exactly the same patients. Domestic India ink may give false positives to the tyro. Spiral forms are to be seen in the ink itself which are apt to be very confusing.

Cultural and animal inoculations are not practical office procedures, and will not be dilated upon. The staining of Spirocheta pallida in tissue is an excellent method but is time consuming, and a delay in a report for the presence of the organism is not desirable.

There is an apparent difference in size of the spirochetes viewed in life under the dark field of technic and those seen in stained sections. The living organism in dark field is not actually seen, as what one sees is an image of refracted light from the surface of the spirochete. The dark field image can be compared to the visible crescent of a quarter moon which can be seen to cap the darkened lunar globe.

The treatment of the patient begins with the diagnosis. The dark field is an office procedure for the demonstration of Spirocheta pallida which should be at hand for use in every possible recent syphilitic lesion. 18 East 89 Street.

Preventive Dentistry

"The old slogan, 'A Clean Tooth Never Decays,' has done great harm in preventive dentistry," said Dr. William R. Davis, Director of the Bureau of Mouth Hygiene, Michigan Department of Health, speaking in Chicago before a joint session of the American Child Health Association and the American Public Health Association.

"This expression is true only for surgical cleanliness," Dr. Davis declared, "and surgical cleanliness is impossible so far as we know in the mouth of a live person and not very important in a dead one."

"Many teeth that are brushed decay and many teeth that never saw a toothbrush never decay. No dentist on earth can make badly broken down and aching teeth as good as new. Why broadcast such teaching? Educational material that is not true or is out of focus should not be used no matter how attractive."

"We have led many school boards and teachers to believe that toothbrush drills and cleaning teeth are the whole thing in a dental health program. Use of the toothbrush is a good habit like taking a bath or washing the face. In certain cases it will help prevent decay. Twice a day, before going to bed and after breakfast is a reasonable frequency to teach. Why teach five times, which is unreasonable? Why teach using gauze on the finger and boric or salt solution daily to wash the mouth of an infant which is correctly fed and in good health, when clinical experience shows that it does more harm than good?"

"The two greatest factors in mouth hygiene are diet and early dental attention. It has been proven quite conclusively that wrong diet promotes decay and correct diet retards decay. If we could have early attention to small defects and correct diet, I believe we could almost wipe tooth brushes off the map even if another toothbrush was never manufactured. This may be rank heresy, but I believe research and clinical evidence are proving it."

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The Fee Splitting Imbroglio

The economics of almost every human relation have undergone changes, probably for the common good, during the last few years. Commercial pursuits have been the first to grasp and follow the new developments. Home-life and management are certainly showing modifications of policy. Into line with the rest of the world the professions must fall, if indeed they have not done or are not doing that very thing already.

The question of costs probably embraces economics in a most generic and inclusive way and the well-nigh universal tendency is to decrease costs and distribute them on the budget plan. The soundest home management to-day does two things: controls each outlay and proportions it according to its importance. A partial or complete budget is thus created. There is no other way in which to meet the rising costs of living.

Into this category the medical bills must come and the day is at hand when either the profession will see the wisdom of budgeting the expenses of sickness or state medicine will soon be established. We offer no apology for this statement of obvious fact. There are many high quality medical men who believe that already our profession is being stripped of its best heritages, dignities and inspirations and they are largely right.

For a considerable period, late in 1927 and early in 1928, the *Medical Journal and Record* ran an Open Forum on Fee-Splitting to the total of fifty-five columns

of letters signed and unsigned. As no review of this large material has been undertaken on the basis of an article, we call attention to the contribution of Dr. Victor Cox Pedersen which we requested for this issue.

The law has long preceded and surpassed us in its Code of Ethics by declaring division of fees ethical when rates are fair, the arrangement known to the client and professional services real.

What simpler formula can we possibly adopt: service actually rendered, rates honorable and fair, division open and accepted by the patient? Thus while the family is budgeting its medical costs we provide against overcharge, numerous bills and division without duty actually done.

Simple honesty and true honor are the same in all human relations. Medicine has no patent or sole right to them. In fact the laity are amused by much of our ethics because they do not realize the common sense in them and many doubt, justly indeed, that the code is practicable.

Fee-splitting, in its most sinister aspect, would appear to be a phase of bootlegging, in that it violates and seeks to nullify, for the forbidden profit that is in it, a professional covenant that prohibits ulterior traffic in honorariums.

It is like an infectious disease, with predisposing factors that have to do with the keen struggle for existence, not to say success, that pervades the social organism, in the course of which struggle moral stamina, none too strong at most points, weakens and breaks. The only extenuation that can be urged is a grotesque social system that puts an extreme strain upon our weaklings and go-getters alike in all civic and moral contacts.

Balancing each other at the ends of the professional gamut are the private vice of fee-splitting and the public vice of ballyhoo in the sphere of so-called health propaganda.

Fee-splitting in its economic aspect is an expression of social conditions. It needs organization to adjust it to the standards of common honesty.

Dr. Pedersen takes up fee-splitting with the courage and insight and medical statesmanship that it demands. For whisperings he substitutes frankness: for darkness and dankness he offers light; fearlessly he recommends a program of decency, stability and reform.

It will be noted by the careful reader that in this notable contribution the letters of the Forum are studied and classified under a number of important headings, the ethics of the law fully quoted, comments in literature reviewed and, finally, clear deductions and recommendations given.

All very surprising but the gentry concerned would do well to give heed.

We suggest that they turn for a moment from their preoccupation, so passionately pursued—and so apparently unreal, if one were to judge solely from their studied avoidance of the topic—and listen to reason and common sense.

The Cost of Medical Care

Apropos of the five-year program of the Committee on the Cost of Medical Care we should like to quote some remarks in the *Medical Journal and Record* of September 5, 1928, by Dr. Ethan H. Smith of San Francisco, which seem freighted with economic wisdom. "Why," asks Dr. Smith, "select the medical profession and hospital service alone? Why not take in all activities of every kind or sort and reduce the whole thing to a communal basis at once? Why let all others escape?"

Medical care is only one of many departments con-

cerned in the high cost of living. "Scale down," says Dr. Smith, "every other department of the cost of living to a decent business level and the cost of medical care will automatically drop with the rest. Food and clothing and transportation are as necessary to human existence as is hospital service and affect not only the sick but the entire population."

No sophistry can dissociate the problem of the cost of medical care from the cost of living in general, and it is a secondary rather than a primary one. The investigators are at fault if it be their aim to change medical conditions without any corresponding adjustment of other conditions.

It is unflattering selection. Is our discipline to correct all social pathology?

An Announcement

With this issue of the MEDICAL TIMES Dr. Malford W. Thewlis begins formally to function as Associate Editor, representing in particular the scientific interests of the MEDICAL TIMES abroad, while engaged in research work in Paris.

Dr. Thewlis was born in Wakefield, Rhode Island, Dec. 4, 1889, and is a graduate of the Bowdoin Medical School (1911). During the World War he ranked as Captain in the United States Army Medical Corps and saw active service on several fronts, including Oise-Aisne (August 12-19, 1918), St. Mihiel (September 12-16, 1918) and Meuse-Argonne (October 9-November 10, 1918). He was attached to Field Hospital 165 (Rainbow Division) and later to Mobile Hospital 7 and Camp Hospital 115.

Dr. Thewlis returned to France in 1919 and matriculated at the Faculty of Medicine, Paris, for post-graduate work. Since then he has returned several times for study.

During the past several years Dr. Thewlis has practised in New York City during the winter and in Narragansett Pier during the summer. He is Consulting Specialist in General Medicine, United States Public Health Hospitals of New York City, and also attending physician, South County Hospital, Wakefield, Rhode Island, during the summer months.

The editorial experience of Dr. Thewlis has been extensive, and he is the author of a textbook on Geriatrics (*Diseases of Old Age*) which has gone into its second edition in this country and in England, part of the latter edition being in process of translation into Hungarian at the moment. With Dr. Nascher, he shares the credit of doing the pioneer work in geriatrics, to the point of establishing it as a special branch of medicine.

The MEDICAL TIMES felicitates itself and its readers upon this notable accession to its staff.

Self Murder

It is painful to glance through the pages of the press and to note almost daily that some desperate man, or woman, has rushed into the unknown, slain by his, or her, own hand. It is sad enough to read of a youth throwing away a precious life for unrequited affection, for disappointment over failure to succeed in school or college, in literature or art; but sadder still to hear of men in the prime of their usefulness, "successful"—whatever that means—with apparently everything to live for. Age, incurable disease, pain, loneliness—these seems some excuse for taking one's life under the circumstances.

What is the explanation for this epidemic of self-

destruction? It is as old as the world and there are few of us who have not at times brooded over the thought, as history proves. The soul is a lonely thing and goes down into the dark places alone. God alone knows our bitter hours, when life seems not worth the candle. Goethe knew it; Hamlet expresses it more clearly than any.

We, who were in the army, can recall the *cafard*, as the French express it. Call it what one will, the urge to exchange this troubled existence for the unknown, pictured so vividly by Dante, is always present in troubled minds, weak and unbalanced. Napoleon, the great poseur, who himself, tradition says, attempted to end his life since he was spared at Waterloo, was once obliged to issue a general order to his army against self-destruction.

Let psychiatrists analyze the mental condition of these desperate souls, and classify the form of insanity from which they suffer. To us it is pure cowardice. Let us cultivate the optimism of Louis Stevenson, not the gloomy broodings of Goethe's "Werther," of which we are ashamed in later life. Play the game to the last inning! Look into the unknown calmly in the spirit of "Thanatopsis," sustained, not by philosophy, but by a faith in Him, to whom alone we are accountable for the deeds done in the body.

Is there not a solemn charge laid upon us above even the priest,—to preach a sane view of life and to lift up the feeble-minded and to note and check those tendencies that lead to self-murder? Thank God, there is more in the practice of medicine than mere acquisition of wealth, and the physician who loses sight of his responsibility as a comforter of sad hearts, and is only a cold scientist, or a money-maker, misses the real meaning of life and will find his hell begins on earth, instead of his heaven, where indeed both begin.

—H. C. C.

Modern Diagnostics of Syphilis

It seems to be generally agreed that syphilis has ceased to be the darling of the specialist, and has become the duty of the every day practitioner of medicine. There can be no question that such a change is one for the better because there are many communities which have no physician specializing in this malady, and it would be unfair to have infected persons in such places do without treatment. The ease of administration of the newer salvarsan substitutes and improvements over the old fashioned 606 may be partly responsible for this change of attitude. The influence of instruction by local Boards of Health and the work of the United States Public Health Service must not be forgotten. Some share of the credit must be given to the wide awake manufacturers who have disseminated the latest findings by means of their instructive booklets and brochures. That the last may be biased goes without saying, but there are enough manufacturers in the field so that no great harm is done.

The fact that many centers are available for the performance of the Wassermann reaction and its substitutes and modifications also helps the general physician to spot the patient with syphilis. A word of caution as to the results of the laboratory must be sounded. It is not impossible for the best of technicians to go wrong, and the Wassermann should be a guide but not a tyrant for the medical man.

In this issue of the MEDICAL TIMES is given some common sense advice regarding another test which is of great aid to the physician. Dr. Goodman ex-

plains the dark field illumination method of searching for *Spirocheta pallida* as an office procedure, so that each and every physician can equip his place with this diagnostic aid. Then the physician will be enabled to check up on his Wassermann results. He will get the *Spirocheta pallida* from condylomata lata lesions, and in the face of frank secondary syphilis the Wassermann should be strongly positive in every instance. But further than this, the value of the dark field test is that the physician can positively diagnose syphilitic infection before the Wassermann is positive. Here is the means of being an active part in preventive medicine. What can be a source of greater satisfaction to the physician than to treat his patient early and avoid contact cases of syphilis. And even better than that, to have an assurance that every thing has been done which it is possible to do EARLY in the disease when the possibilities of permanent cure are practically assured.

Although every effort has been made to make the treatment of syphilis part and parcel of the equipment of every physician practicing medicine, the same good common sense is necessary as for other diseases which have not lent themselves to formulae. There are pitfalls along every path of syphilis from the chance to the grave. Syphilis can imitate every other disease; every other disease can be mistaken for syphilis. Diagnosis is helped by serological and bacteriological methods of investigation, but it is clinical acumen which precedes the other means of examination. Routine Wassermann examination of every patient is not a bad idea. In this way not a few latent syphilites will be uncovered and treatment instituted.

Despite repeated warnings as to the differences in salvarsan, arsphenamin, etc., and neo salvarsan, neo-arsphenamin, etc., there still seems to be some confusion, and the terrible mistake is still being made of using old salvarsan or arsphenamin according to the technic of new salvarsan or neoarsphenamin. Old 606, old salvarsan, or arsphenamin is acid in reaction and must be alkalinized by solution of sodium hydroxide. It must be given in a large volume of water. The newer preparations, 914, new salvarsan, or neoarsphenamine require only to be dissolved in a small amount of water. When old salvarsan is given by mistake for neosalvarsan, the patient suffers, and may even die. Here is not a theoretic problem but an actual one. The physician administering this form of medication should assure himself each time that he is preparing the proper drug according to the accepted technic. This duty should not be left to a nurse or to a druggist. As the physician is the responsible party, he should himself examine the ampoule before it is broken and its label removed. It might not be a bad idea, suggested at another time by the author of the article on Dark Field Demonstration of *Spirocheta pallida*, to include some innocuous dye with the old salvarsan to distinguish it from the new. Or the ampoule may be made in a different way. Recently Dr. Goodman also had the opportunity of discussing the possibilities of reinfection in syphilis. In this matter the published views of Dr. Goodman mark him as a purist. He sets out very definite steps before the diagnosis of reinfection of syphilis can be entertained, and it may yet be that the MEDICAL TIMES will publish the critique of reinfection from the pen of Dr. Goodman. In the meantime, we would briefly mention that Dr. Goodman has opened an entirely new outlook on this problem by suggesting that it would be best to consider all possible cases of reinfection and superinfection as CYCLES of infection of early syphilis.

The physician must be prepared to undertake treatment of every phase of the syphilitic infection. The dark field, the withdrawal of blood for the Wassermann, the serologic niceties, and even the examination of the spinal fluid: but above everything else, he must do a clinical examination to consider which test will be in order and to ferret out those early indications of a breakdown in the general mechanism which foretells a disaster in the arterial tree or in the nervous system. And a good physician is a good syphilologist!

Nervous Disease and Greatness

Dr. Graham Wallas, of London, points out that "In the great crises of history, men occasionally come to the front in whom the intensity and obstinacy of the impulse to lead is due to actual nervous disease." Of the men who made the Versailles peace, Wilson, Northcliffe and Sonnino soon died of progressive nervous disease. Wallas believes that some of our leaders attain positions of power "not in spite of their pathological condition, but because of it."

Political prejudices aside, there is undoubtedly much truth in this conception of some leadership. But too much passion enters into contemporary judgments to make them very reliable. We recall a famous alienist who was at great pains to prove that Mr. Roosevelt was really a paranoiac, and there can be very little doubt that this worthy alienist did not love the subject of his criticisms very deeply, or that none of the latter's political policies commanded his enthusiastic admiration.

But when we go a little farther back in history it is rather easy to see, without any particular prejudice, that nervous disease played a part at times in the political dominance of certain individuals.

If we leave the field of politics and history, and enter other domains in which nervously diseased individuals have reigned *because of* their disorders, it becomes even more evident that the thesis of Dr. Wallas deserves elaboration.

We are a little too much under the thrall of the eugenists in these matters.

A Proper Income Tax Deduction

The suggestion of *The Evening World* that money spent for medical services should be deductible from the taxable income seems reasonable enough. Repairs upon an automobile used for business purposes are so deductible. Why, then, should not expense incurred in the maintenance of health come under the same category? The body is a super-machine which certainly has to be kept in good repair if one expects to keep one's business going.

Obstacles to Progress, and a Possible Way Out

Mr. Ralph Adams Cram, the noted architect, makes a correct diagnosis of conditions that retard our social progress. He points out that ignorance and superstition are peculiarly rampant at present. "During the last two generations," he writes, "intelligence and culture have been increasingly submerged by a rising tide of ignorance, bigotry and otiose superstition that is one of the penalties of our present social system; but I believe these qualities are inherent and congenital; they are not engendered by argument and propaganda and no one not already predisposed toward these opinions is induced to accept them by extraneous means." If wholly successful in dominating our American life, Mr. Cram believes that the sinister and ominous crowd so constituted would strike directly at the very roots of

constitutional government and exhibit "the worst sort of mob-psychology and illiterate vulgarity over those qualities of intelligence, rectitude and sound judgment that alone can guarantee the safety and continuance of popular government."

Such elements of our population "inherit a body of gross superstitions from a long line of equally ill-informed ancestors," and their ignorance is "invincible." "The working force is the great mass of ignorance, prejudice and illiteracy that weighs down the Republic like a stone and is primarily responsible, because of its inertia on the one hand and its crude mental processes and violent, unintelligent action on the other, for most of the ills we suffer from to-day both socially and politically."

It is an impressive conclusion that Mr. Cram draws: "The greatest danger of the Republic is neither capitalism nor the trades unions; neither party tyranny nor communism; not even materialism nor the license and the wildness of the 'younger generation'. It is quite simply the threatened and complete control of government and society by the body of ignorance, prejudice and superstition, already so powerful that it has Congress and most of the 'practical politicians' in leash, and is itself responsible not only for Constitutional prohibition, and many other coercive and anti-social acts, but also for the . . . assault . . . on the fundamentals of culture, intelligence and honor."

While Mr. Cram is writing in other than a medical connection, his analysis and diagnosis of the social situation accounts for much of the resistance of "the people" to medical progress. It is marvelous that we are making a fair degree of present progress, in the face of such conditions.

One may, to some extent, extenuate the shortcomings of the vast elements under consideration. Not until universal high wages, insurance against unemployment, sharing in industrial management and profits, and also sharing in the ownership of corporations prevail (see statement of Rev. John A. Ryan in *American Ecclesiastical Review*, September, 1928) will we have a self-respecting and humanized, because economically secure, population, able and willing to go into partnership, so to speak, with medical science and medical men.

Notes on Internal Medicine (Concluded from page 328)

usually sufficient. If patients focus their attention on blood pressure their lives become miserable. Moreover, there are patients who have had a blood pressure of two hundred or over for years and do not know it. They are the fortunate ones but we cannot deceive patients and must inform them of their condition in order to gain co-operation.

It will be interesting to work further on the question of diet in hypertensive cases; thus far it seems to me there is growing evidence that diet does not influence them to any extent.

Syphilis and Cancer. In many instances syphilis seems to form the nucleus for the development of cancer. These cases demand prompt treatment both for cancer and for syphilis. As many of these carcinomas appear in old age, at a time when we may get negative blood reactions, we must be on our guard in treating for syphilis. Very often old syphilitics give a negative Wassermann or Kahn reaction yet treatment is indicated from the clinical point of view. It is well not to use arsphenamine in old age but we may give mercury, especially the red iodide.

Rhus Poisoning. Poison ivy extract (rhus toxicodendron) in almond oil works well in many cases. 1 cc. is injected intramuscularly, repeated at intervals of 24

hours. Locally, a solution of ammonium chloride, an ounce to a pint of water, may be used to advantage.

Ultra-violet radiation. In slow healing wounds, especially after operation, ultra-violet rays may be employed with benefit.

Amebiasis. Combined treatment of emetine and stovarsol may be tried.

Digitalis tablets. Whole leaf digitalis tablets are very satisfactory because the dose is always the same. Measuring the tincture with a dropper is inaccurate as it may require 30 drops to actually give fifteen minimis. If a liquid preparation is used a minim graduate is necessary for accurate dosage. Tablets are convenient and standardized. $\frac{3}{4}$ gr. tablets are equivalent to $7\frac{1}{2}$ minimis of the tincture; $1\frac{1}{2}$ grain tablets are equal to 15 minimis. The usual dosage is one tablet after meals.

Strontium salicylate. There is probably little advantage in using this preparation in place of sodium salicylate.

Epitome

Focal infection important factor in cause of arterial hypertension.

Blood pressure estimations should not be made too frequently.

Golf has its dangers in advancing years.

Alkaline diet recommended for arterial hypertension.

Bromides of benefit to relieve nervous tension.

There is growing evidence that red meats and coffee, in fact any food, have little influence on blood pressure. Overeating should be warned against.

Cancer may come on a syphilitic base. Both diseases should be treated.

Old syphilitics frequently show negative blood reactions.

Poison ivy extract may be used for rhus poisoning.

Ultra-violet rays of benefit for slow healing wounds, especially post-operative.

Emetine and stovarsol for intestinal amebiasis.

Whole leaf digitalis tablets convenient and satisfactory.

Strontium salicylate of little advantage over sodium salt.

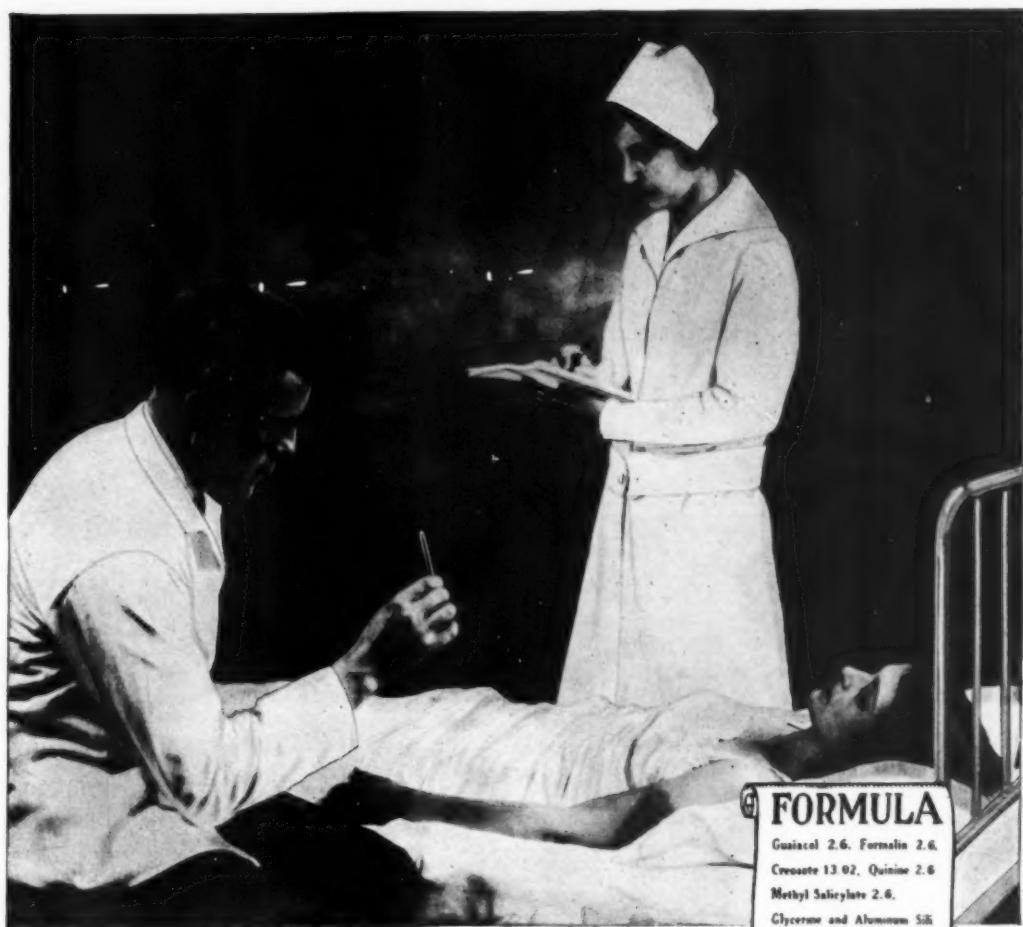
Preschool Health Service

As a result of a complete program of pre-school health work organized in Fargo, N. D., in 1923, sixty-three per cent of the children who entered school last year had been reached by the Health Department, according to Dr. B. K. Kilbourne, Fargo's City Health Officer, who spoke in Chicago, October 16, before a joint session of the American Child Health Association and the American Public Health Association.

"Many of those children first seen in 1923 were infants at that time and were reached through the routine service to that group and have been carried continuously since," Dr. Kilbourne said.

"The goals of pre-school health service may be summed up as follows: Every pre-school child should have a physical examination regularly every sixth month or as often as his doctor advises. We emphasize the family physician here as he should increasingly assume this responsibility. The child should be immunized against diphtheria and vaccinated against smallpox if this was not done in infancy. He, with his family, should be instructed in the essential health habits, so that he sleeps and rests regularly, eats heartily, and welcomes the wholesome outdoor play and companionship of other children. He should have early and prompt attention during illness. His environment should be controlled to prevent harmful influence effecting his development. He should have regular dental examination.

"In an attempt to accomplish these goals, the private physician and the private dentist informally, and the health department and school board must formally cooperate. Such a plan in operation supplementing private practice makes available every essential health service to pre-school children, and an educational program designed to stimulate parents to avail themselves of these opportunities. We believe that with the proper use of the facilities available in most small cities much can be done to approximate this goal."



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